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Note.—Cross references have been avoided as far as possible. All articles are indexed, both under their subject and the name of the author, 'Snap Shots" of a practical character are indexed under the subjects with which they deal, but those of merely ephemeral interest are not included

Abbreviations.—Art. = article; sp. = leaderette appearing under the heading of "Spirit of the Times"; sn. = short practical paragraph such as are included under the heading "Snap Shots"; pat. = abstract from a patent specification; qr. = an answer to an enquiry in the "Questions and Replies"; l. = leader.

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PHOTOGRAPHY

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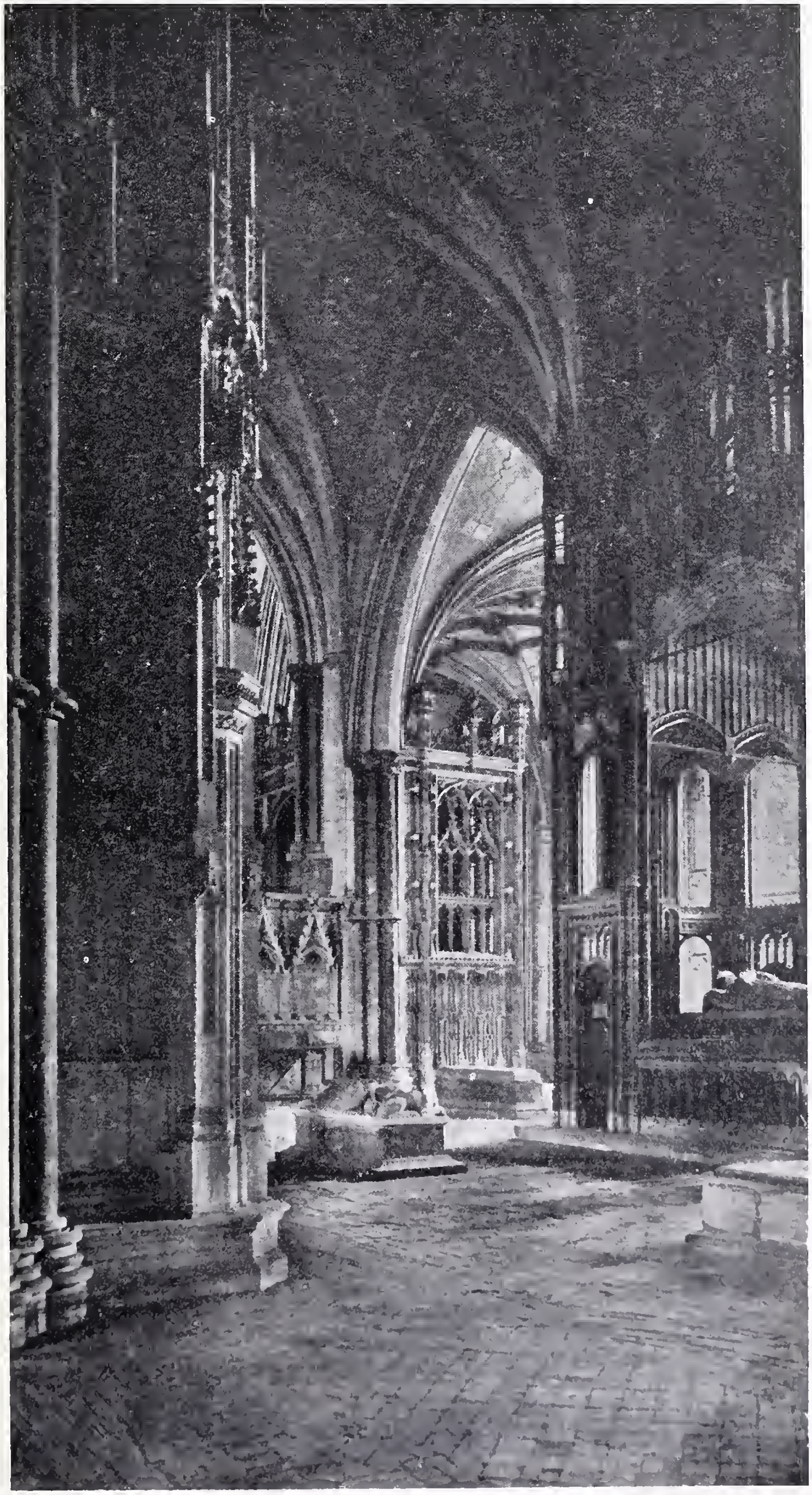


BEHIND THE REREDOS, WINCHESTER (See Page 12). BY S. L. COULTHURST.

Photography with a Pinhole.

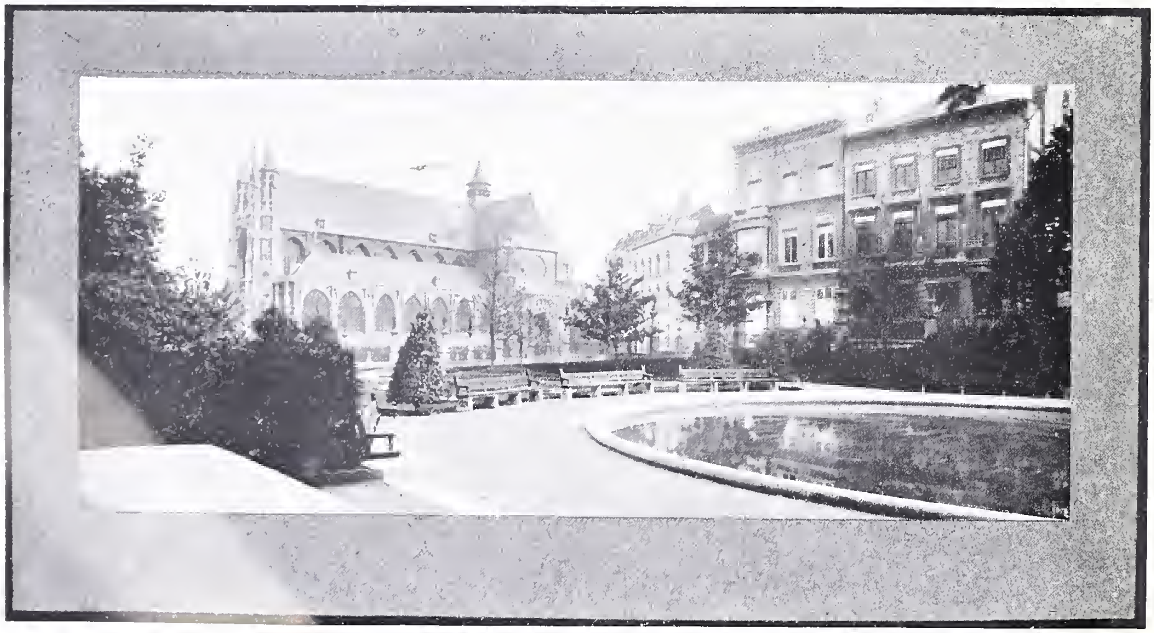
Amongst the many workers who have taken up more or less seriously the subject of photography with a small hole instead of with a lens, no one, at any rate on the Continent, has given so much attention to it as our contributor, Mr. Combe, who has supplied us with the following article upon the subject. Mr. Combe is intensely interested in everything relating to pinhole photography, and is anxious to get into correspondence with his fellow workers. He also authorises us to state that he will be glad to help any of our readers with advice on the subject if they care to address him either under cover to our office, or direct to his private address (23, Rue du Docteur Foucault, Nanterre (Seine), France), provided their communications are post paid and are accompanied by a stamped envelope for reply, the postage from France being 25 centimes, or 2½d. If English stamps are sent they should not be stuck to the envelope, but sent loose.

The article which our contributor sends will be found to go very fully into the question of calculating the suitable extension of camera, and into the construction and measurement of the holes. We are fortunate in being able to illustrate Mr. Combe's article with examples by some of those photographers whom he has induced to take up the subject, and we should be glad to see the work of any of our readers who may be guided by his advice.—Ed.

In putting forward a defence of pinhole photography, I hope to be able to remove two prejudices which have stood greatly in its way in the past—prejudices due to a misunderstanding of the laws which govern it. These are the belief that it is incapable of giving sharp results, and that the exposure is necessarily of very great length.

The procedure described below will be found to be complete in itself, giving with certainty and ease results which may safely be put side by side with the best work of the lens. True! instantaneous photography is not possible, but the exposure required is by no means so long as people are apt to think. For example, there is the portrait by M. Crestin, reproduced on page 9, taken at a distance of two yards with an exposure of twelve seconds.

While the process does not admit of instantaneous work being done, on the other hand it possesses one great advantage over the lens that the picture may be of any dimension that may be thought fit, from the smallest size up to the very



Church of N.D. du Sablon, Brussels. *Pinhole photograph by M. de Coster.*

Taken with a pinhole diameter thirty hundredths of a millimetre, camera extension 112·5 millimetres, exposure 30 seconds, light feeble.

largest. I exhibited at the Paris Exhibition in 1900 a negative taken direct with a pinhole upon gelatino-bromide paper, which was a hundred inches one way by forty-two the other.

When I first took up pinhole photography in 1897 I was confronted by certain difficulties. The factors to be taken into consideration were concealed in mathematical formulæ, which were only to be understood by those having a knowledge of algebra, and then could not be applied practically without the careful measurement of the needles employed, which was more a matter for a scientific instrument maker than for an amateur photographer. The first thing to do was to devise a means of measuring the needles with a simple mechanic's rule, and this was done in a very easy manner by putting a hundred needles of the same degree of fineness side by side, measuring their total width, and dividing that by a hundred.

Following on this, M. Pierre Malvezin, an engineer, of Bordeaux, conceived the idea of using a square aperture formed not by piercing a hole with a needle of a given size, but by assembling round such a needle four thin metallic leaves. In piercing a needle hole it is important to make it very carefully in sheet metal as thin as possible, and to remove all the burr. M. Malvezin, using very thin metal, found it most difficult with it to get rid of the burr, and then was struck with the idea of cutting the thin metal with perfectly sharp edges with a pair of scissors, and then arranging four of them at right angles to one another round a needle, the size of which was known. He published with this some wonderful examples he had obtained by its means, and was soon followed by others, who were equally successful. M. Malvezin went further, and devised a piece of apparatus giving a square hole adjustable to any size at will by means of a micrometer screw and a graduated scale; each turn of the screw, through an angle of one degree, increased or decreased the opening the hundredth of a millimetre. In this case, instead of being formed of four metallic leaves, the hole was bounded by two only, out of each of which a right angle had been cut with a pair of scissors. The two pieces were placed with the openings of the two angles facing one another, and then overlapping; a square hole was left which diminished gradually in size, but always remained square, as the two pieces were overlapped more and more.

GENERAL DIRECTIONS.

THE NATURE OF PINHOLE PHOTOGRAPHY.

In this process, the lens is done away with altogether, and its place in the camera front is taken by a hole—a very small hole—such as can be made in a thin sheet of metal by means of a fine needle.

FOCUSSING.

The light which so small a hole allows to enter the camera is too feeble for the eye to distinguish any image on the ground-glass, and it is therefore hopeless to attempt to focus in that way. Focussing can be effected, however, by calculation, taking as a basis the diameter of the needle used to make the hole. It is difficult to measure the diameter directly unless special instruments are available, but it can be done indirectly without difficulty by measuring the total breadth of a hundred needles of the same number and make. If this is divided by a hundred, we get at once the diameter of the needle and of the hole made by it, if it has been made with due care. There is no need to divide by a hundred for the calculations which follow; we can use the number of millimetres which the hundred needles measured, only remembering that the diameter of the hole is that number of *hundredths* of a millimetre.

CALCULATING THE FOCUS.

The focus for a pinhole picture is the position at which the greatest degree of sharpness is obtained. It is found by squaring the breadth of a hundred needles of the same number and make as that used to pierce the hole, and dividing this result by 8. The number 8 may be taken as the factor of maximum sharpness.

Let us suppose, for example, that the size of needle which suits us is that known as a No. 12. The needles are supplied in packets of twenty-five, so that we shall want four packets to make up one hundred. Taking a level sheet of glass, and placing a visiting card on it at one end, that its edge may serve as a stop, we arrange the needles side by side, touching each other, but not overlapping. A second card may be used to assist in this operation, and then, when all the needles are in place, bounded by the two cards, the distance between the cards may be taken as the breadth or diameter of a hundred needles. In the case we are assuming, we will suppose that this diameter turns out on measurement to be 35 millimetres. We multiply 35 by 35, giving 1,225, and, dividing 1,225 by 8, we get 153, and therefore learn that the general focus giving the maximum amount of sharpness for a needle the diameter of which is thirty-five-hundredths of a millimetre is 153 millimetres.

If the breadth of the needles is 38 millimetres, we shall have—

$$\frac{38 \times 38}{8} = 180.5 \text{ millimetres.}$$

In this case, then, the focus must be 180½ millimetres, in order to give the maximum of sharpness with a needle of a diameter of 38 hundredths of a millimetre.

MAKING THE NEEDLE HOLE.

Out of a sheet of brass as fine as possible, cut a square having a side of about an inch in length. Put it on a sheet of glass and mark a cross on it lightly, with either a pencil or a sharp point, going from corner to corner so as to find the exact centre. Between the brass and the glass put a sheet of ordinary paper, and then, taking a stout needle, apply its point to the centre of the piece of metal. A light blow of a hammer on the head of the needle will be found sufficient to make it pierce the metal without going through the thickness of the paper, and so reaching the glass. The hole is then made. We now take one of the hundred needles, the thickness of which we know, and make a head to it with a piece of sealing-wax. The point of this needle is then put into the hole we have made for just a little way, and the needle turned between the fingers. Take out the needle, and put the sheet of metal on

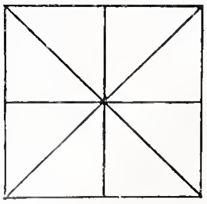


Fig. 1.

the glass again, but this time put it the other way up, so that the burr is uppermost. With a *bâton d'émeri*, lightly rub the burrs so as to remove them rather than to push them back. When, on trying it with the finger, no roughness can be felt, the needle is again introduced, always putting it in from the same side, and push it a little further in. Draw it out again, turn the metal over, and once more remove the burrs. Repeat this operation three or four times, making the needle go a little further in every time, until it will finally just pass right through the hole. When this is the case, turn it round a few times in the hole, and then withdraw it, keeping it carefully at right angles to the metal. Do not touch the hole again with the emery; the hole is finished.

The next thing to do is to blacken it. This is done with Indian ink on the side of the brass on which was the burr, since this is the side that is to be turned towards the inside of the camera. When it has been blackened, the needle is once more inserted in the hole and turned round once or twice to remove any of the Indian ink that may have lodged there.

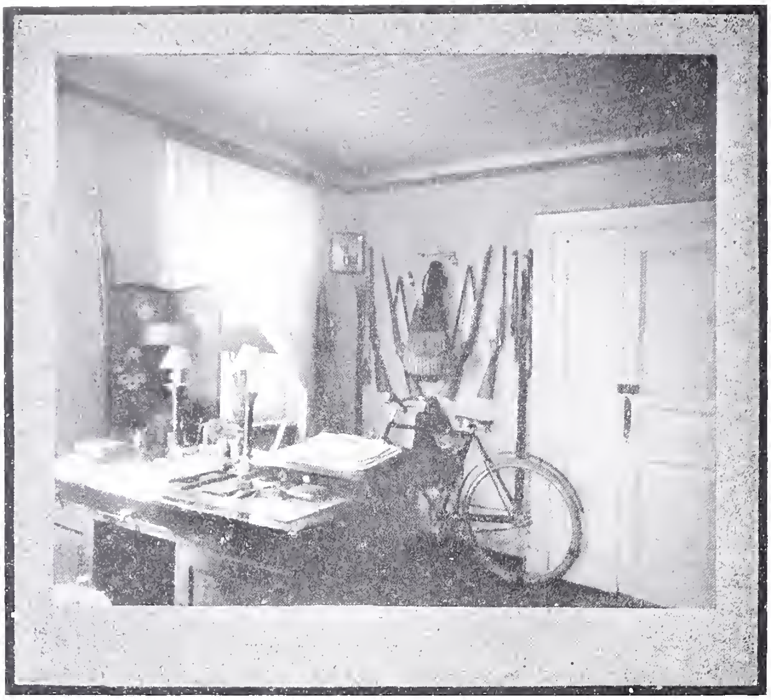
FITTING THE PINHOLE TO THE CAMERA.

Those who possess a bellows-body camera of the ordinary type can want nothing better for pinhole work, since there will be nothing to do but to fit the piece of metal with the hole in it to the camera, and this is quite simple. To do this, a sheet of card is taken thin enough to be gripped between the flange and the lens board of the camera, and large enough to fill the hole in the lens board. On that side of this piece of card which is to be turned towards the inside of the camera, stick a piece of black paper. On the other or white side, draw two diagonals crosswise at right angles to determine the centre, as was done with the brass. In the middle of the card cut or pierce a hole of about half an inch in diameter.

On the blackened side of the card (fig. 2) cover over this opening by means of the metal in which is the needle hole, also having its blackened face turned towards the inside of the camera. As it has two diagonal lines on the other side which will be visible through the hole in the cardboard, it can be adjusted by means of these so that the diagonals on the metal correspond with those on the card, when the hole will be central. The metal plate can then be fixed in position with ordinary gum or by means of strips of black cardboard gummed at each end. This latter method is preferable, if it is wished to be able at any time to substitute for the hole first employed a larger or smaller one. When this has been done, the flange is taken off the lens board, the lens hole is covered with the piece of card, and the flange is replaced in position.

THE CAP OR SHUTTER.

Two grooves made in card may be glued on the outside of the piece of card, one above and one below the hole. A strip of card sliding in these is all that is required in the way of a shutter.



Interior of an office. *A pinhole photograph by M. Crestin.*
Taken with a pinhole of a diameter of thirty hundredths of a millimetre, on an orthochromatic plate with an exposure of fifty minutes.

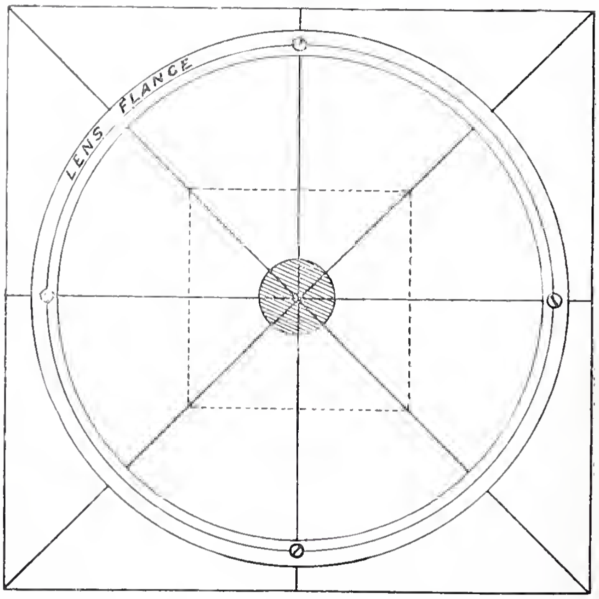


Fig. 2.

SCALE OF EXTENSION.

Certain cameras have upon one side of the baseboard a scale showing the degree of extension. Those which do not have such a convenience can easily be fitted with it, by making a paper scale and sticking it along the edge of the baseboard or on its upper face, whichever may be more convenient. The scale ought to be so arranged that when the camera is extended to any distance some given predetermined part of the moving part of the camera (the back or front, as the case may be) comes against that graduation on the scale which indicates the distance from the lens flange, that is, the pinhole, to the centre of the sensitive surface of a plate. This can be arranged very easily.

Those who have not got a bellows-body camera can make shift, however, with a box which is fitted with an arrangement by which a plate of the required size, whole-plate, half-plate, etc., can be placed and held at any desired distance behind the pinhole.

A SQUARE HOLE AND HOW IT MAY BE MADE.

As I have already pointed out, M. Malvezin, of Bordeaux, has used a square hole with much success. As can be seen on reference to fig. 4, the needle P is driven, held by its eye end, in a block of cork, so as to allow its point to be used conveniently. If we are going to use a hole the size of which is determined by the measurement of a hundred needles in the way that has been already described, the hole is built up round the measured needle P (fig. 3) immediately upon the block of cork C. without employing any other instrument whatever. This block is preferably of a square shape; its upper surface may conveniently measure about three inches each way, so as to be a little bigger than the card C, which was described when making a circular hole was discussed, and which can be used in this case also, without modification. The essential feature is that the block shall form a perfect square, so that on it may be drawn a cross and diagonals coinciding with those of the card C, which is blackened on its underside, as we have already described. The needle P is fixed in the centre of the block. The card support C, by means of the half-inch hole which is cut in the centre of it, which is shown by the dotted line in fig. 3, is passed over the needle and arranged on the block with its guide line coinciding with those on the block, and is then fixed in position by means of drawing pins at its far corners, the needle P occupying the centre.

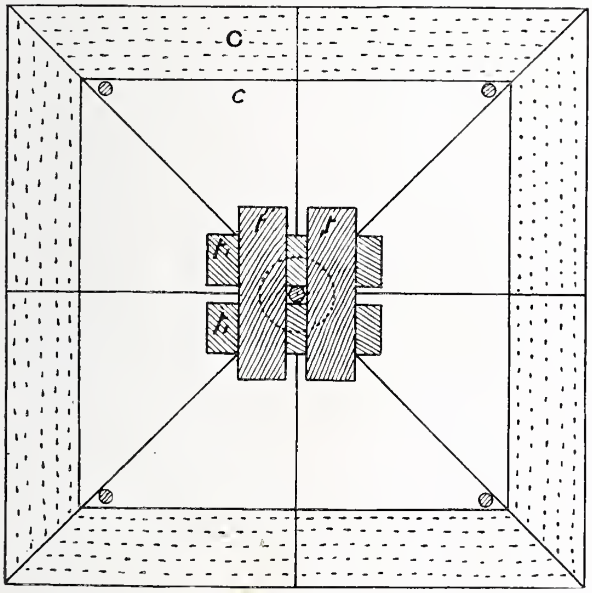


Fig. 3.

From a sheet of copper foil blackened on one side with Indian ink, four leaves (t t, t^1 t^1, fig. 3) are cut very sharply with scissors, each leaf or strip being half an inch wide and an inch long. The upper surface of the card over an area of about half an inch from the centre all round is moistened with seccotine, and on this seccotine one of the leaves t^1 is slid until it is just in contact with the needle—but not pushing it, or the edge of the metal leaf will be dented. The other leaf t^1 is then fixed on the opposite side of the needle in exactly the same way, care being taken that the edges of the two strips are parallel. The card is then put aside until the seccotine has hardened and the leaves are firmly fixed. When this has taken place the other two leaves are attached in a similar way, sliding them on a new layer of seccotine on the first two leaves. When this has in its turn become quite hard, and the leaves are firmly attached, but not before, the drawing pins that hold the card may be withdrawn, raising it carefully straight up from the block so as to free it from the needle without damaging the hole in any way. The square hole is then finished.

TO MEASURE A SQUARE HOLE.

We can go further than by the mere measurement of a hundred needles, where the worker is tied down to the particular size of hole made by using the greatest thickness of some particular needle; and by means of a more elaborate device, but still one well within the reach of anyone who is reasonably handy with his fingers, we can measure accurately the diameter of any small body, such as a needle, that may be required This device was suggested to me simultaneously by M. Legrand, a watchmaker in Belgium, and by M. Malvezin. This is it in principle:

Two millimetre rules, preferably in steel, such as can be obtained at any tool-shop, are selected. One should be graduated in reverse, so that when laid down flat side by side, with one edge of each in contact, the two scales on those two edges both have their zero at the same end. These two inner edges must be perfectly smooth and straight, and the two edges are then fastened with their two zeros in contact, forming a V, the opening of which at the hundredth graduation of the scales must be exactly one millimetre.

The maximum separation then at graduation 100 being one millimetre, or a hundred hundredths of a millimetre, the distance between the two edges diminishes a hundredth of a millimetre by each millimetre nearer to the zero. Consequently, at 98 millimetres the separation of the scales is ninety-eight hundredths of a millimetre, at 97 ninety-seven hundredths, and so on. If we slide a needle between the two scales from the graduation 100 towards the zero mark, the number of millimetres on the scales where it is stopped will indicate its thickness in hundredths of a millimetre.

Modifying this device so as to get still greater delicacy in admeasurement, I have arranged the apparatus shown in figs. 4 and 5. Here we have two steel straight edges S S, carefully trued up, each forty-five centimetres in length. They are brought together at five centimetres from one end, the zero mark being made at the point of junction, while at the other end they are separated by the distance of a millimetre. If the length from zero to the end of the straight edges is made exactly 400 millimetres and the opening exactly one millimetre, the millimetres of both scales will correspond to a separation of as many quarters of one millimetre from one another. There is no need for these straight edges to be graduated: an ordinary rule can be used to measure the distance of the needle from the zero point in millimetres, always remembering that in the case of this particular apparatus four millimetres on the scale indicate one-hundredth of a millimetre in thickness of the object measured, so that the instrument is four times as delicate as that just described.

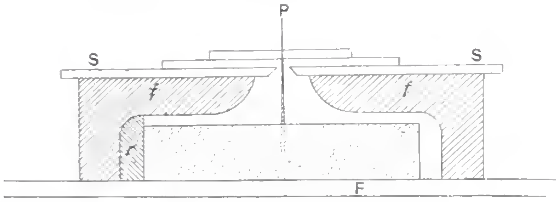


Fig. 4.

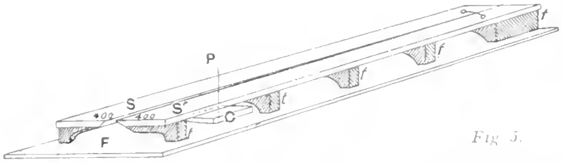
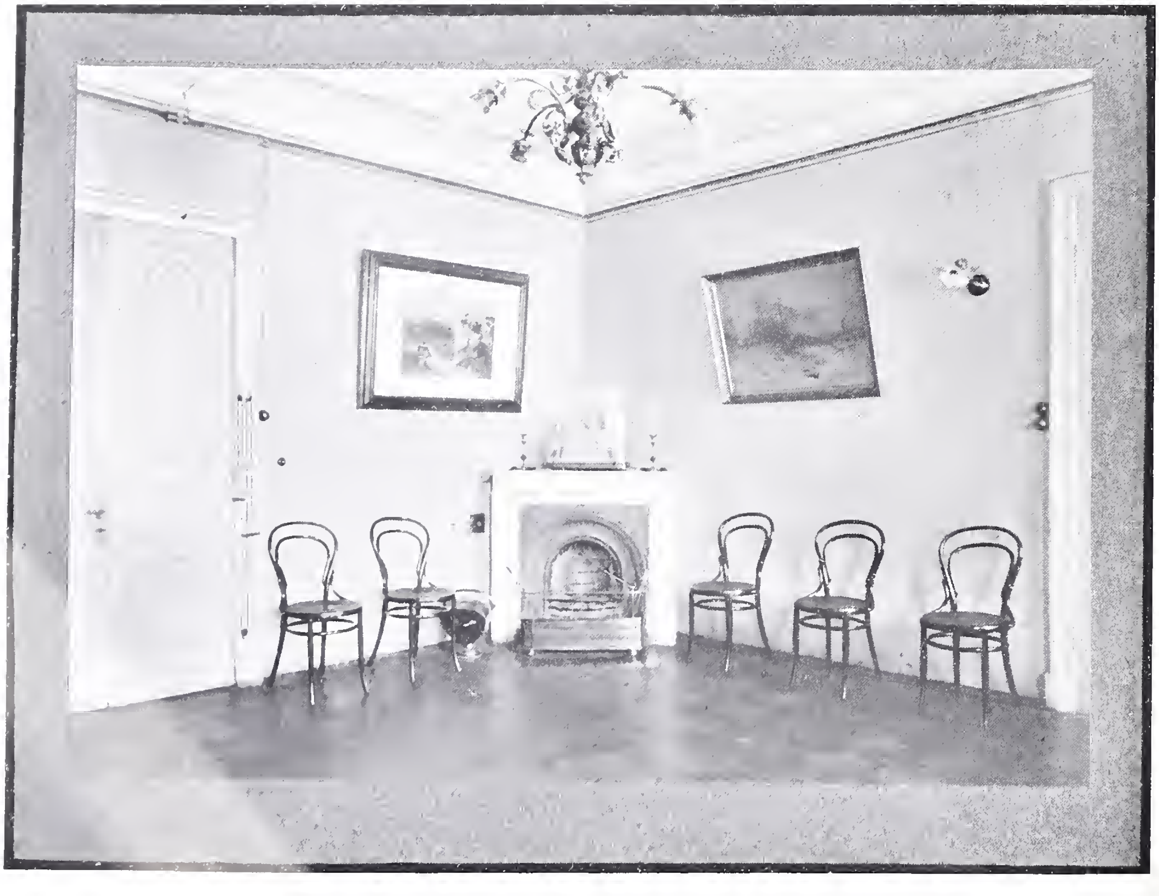


Fig 5.

In order to make the distance between the two edges unalterable, and yet at the same time to allow the squared blocks of cork to slide freely underneath so as to bring the needle to be measured between the edges, the two straight edges may be mounted on feet, as shown at *f f* in figs. 4 and 5. These feet are themselves firmly fixed on a metal base F, trued up, and the rules being fixed to them the arrangement becomes rigid throughout its whole length. A strip of metal *r* (fig. 4) runs down the whole length of the V, on the left side only; it may be fixed in any convenient manner. The use of this is to act as a guide to the block of cork C, so that the needle P may always be in the centre of the opening in the apparatus.

The following is the procedure with this apparatus, which is of use not only to measure the needle P at any spot on its length that we may select, but also to help us to make the square hole exactly the diameter indicated. On turning to fig. 4, the block of wood C is shown inserted in the opening of the apparatus, and pushed up with one edge against the bar *r* (which is not shown in the perspective view in fig. 5). The needle P (fig. 4) is driven in head downwards into the cork to the distance desired, according to the size of hole it is intended to make. The further out of the block of cork that the needle projects, the more will the size of the hole approximate to that of the body of the needle; the further it is pushed into the block the more will the part brought against the scales approach the point, and the smaller will be the hole accordingly. In this way, after a few preliminary trials, a hole of any desired size can be made, which is important when we come to enlargements and to portrait work, since the sharpness increases as the size of the hole diminishes. Now, the smallest hole given by the



Pinhole photograph of the corner of a room. *By M. Crestin, electrician, St. Petersburg*

Taken with a pinhole of a diameter of thirty hundredths of a millimetre.

use of one of Kirby, Beard and Co.'s No. 16 needles, is twenty-seven-hundredths of a millimetre, which is the diameter of the needle. With the method just described, however, we can get holes having a diameter as small as five-hundredths of a millimetre.

By means of a long stick we push the block of cork C carefully along until we feel that the needle is stopped. If the scales are graduated, we see at once the diameter of that part of the needle between them; if not, we measure the distance from zero with a rule. We will suppose that the needle stops at a distance of 138 millimetres. As each four millimetres indicate a thickness of a hundredth, we know that we are dealing with a thickness in this case of thirty-four and a half hundredths of a millimetre. But we will suppose we want a hole of twenty-five hundredths. We draw the block out of the apparatus, and, taking hold of the needle gently but firmly with a pair of pliers, we push it a little further into the block, and measure the needle again, repeating the operation as often as may be necessary until the needle is stopped at the 100 mark, or a hundred millimetres from the zero point, which we know corresponds to the thickness of twenty-five hundredths, which is what we require. We can now build up our square hole round the needle without taking it out of the apparatus. All that is necessary is to draw the block C a little back, so as to give the needle a little play, and then proceed exactly as already described, except that, instead of building round the needle on the surface of the block C itself, we do it on the surface of the scales or straight edges.

A house in Toulouse. *Pinhole photograph by M. Chaupe.*
Taken with a pinhole of a diameter of thirty hundredths of a millimetre, and with a camera extension of 112 millimetres. Exposure 50 seconds on Oct. 15 at 3 p.m., bright light without sun, ordinary plate.

One precaution has to be taken, however. It must not be forgotten that the part of the needle measured is that part which came exactly between the two scales. The thicknesses of the card, however, on which the hole is arranged, and that of the two pieces of copper foil, are such that, without taking care, we should use a part of the needle nearer to the point than that which we measured. To avoid this, we take a sheet of card, and stick on each side of it a sheet of the copper foil, the size of each being that of the top of the block C. Putting it under pressure until dry, we have a gauge which, after measuring the needle, we can slip under the block, sure that it will raise the needle to such an extent that we shall be making the hole round that part of the needle exactly which we measured.

The reader may think that this is an unnecessary precaution, and that a difference of perhaps a quarter of a hundredth of a millimetre in the size of the hole is immaterial; but it is not so, as I shall show. Let us suppose that with a hole of 34 hundredths of a millimetre we wish to enlarge a C.D.V. portrait three diameters, and that, instead of our hole being 34, it is 34¼ hundredths in diameter. The following would be the difference:

Hole 34. Extension for an enlargement of three times, 578 mm.

Hole 34¼. Extension for an enlargement of three times, 587 mm.

It will be seen that there is a difference of nearly a centimetre between the two extensions—an amount by no means negligible when the utmost sharpness is desired.

THE ADJUSTABLE SQUARE HOLE

This device, which was invented by M. Malvezin, of Bordeaux, and independently by M. d'Héliécourt, of Paris, slightly modified to make it adaptable to ordinary photographic cameras, is as follows: The principle I have already pointed out. The two right-angled openings shown (fig. 6) slide on one another, and in order to make them exactly alike they are cut simultaneously out of the same piece of copper foil. One piece of metal with its angular aperture A^1 is fixed in the opening left for the purpose in front of the camera, and the other A, which is required to complete the square opening, is fixed to a piece T sliding in grooves $t\,t^1$. At the end of this sliding piece is a plate or bracket, which has a hole in the centre of it, in which the end of the screw R can turn freely, but which is attached to the screw by the rivet r (fig. 6). At the opposite end to r, this screw has its thread, which has a pitch of two millimetres, and passes through a nut which is in the form of a semi-circle with two wings C C, the semicircle being graduated upon its edge from o to 100, as shown in the illustration. The screw R terminates in an index finger I, which is brought round so as to point to the scale on the nut. The screw having a pitch of two millimetres, half a revolution of the screw is sufficient to move its end r, and with it the sliding plate T to which it is attached, through a distance of one millimetre. We can therefore read off on the scale the position of T in fractions of a millimetre if we arrange the index finger at o when the opening at A A^1 is just closed. The 100 mark on the scale must, of course, be exactly half a turn (or 180°) from the zero.

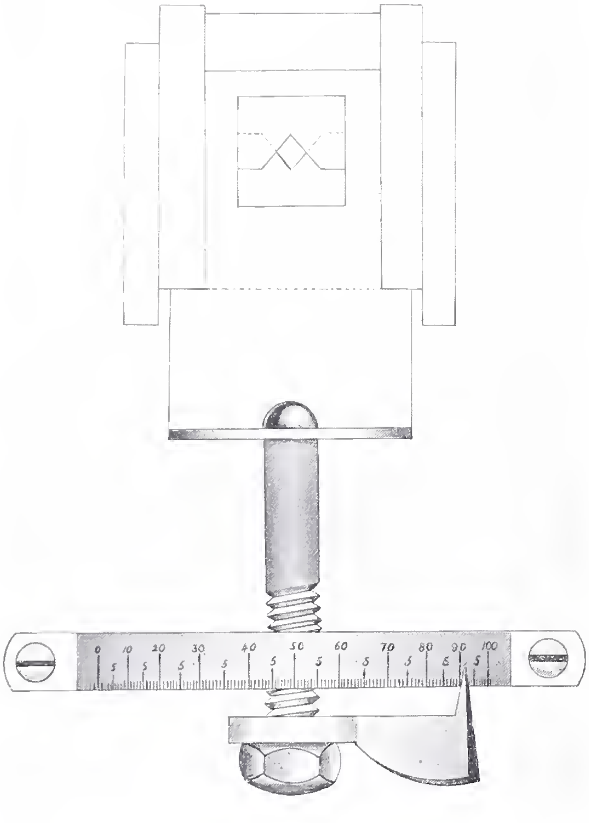


Fig. 6.

Such an apparatus is clearly more than most pinhole photographers are likely to require, but it represents what is at present the easiest method of getting a hole of any given size at a moment's notice.

THE CONNECTION BETWEEN THE SIZE OF THE HOLE AND THE SIZE OF THE PLATE.

The hole made by a needle in one or other of the methods just described will be found to cover at a minimum an angle of 90°. Consequently, if it is placed right opposite the middle of the plate, it will cover a maximum length of double the camera extension, as can be seen on reference to fig. 7. The suitable camera extension for a hole 30 hundredths of a millimetre being 112½ millimetres, it will cover a plate the greatest side of which is twice this, namely, 225 millimetres — approximately, nine inches. Those who are accustomed to change their lenses at least as often, let us say, as they change the size of plate they propose to employ, may think that it ought to be the same with a pinhole, but it is not so. Such a hole as we have referred to, for example, will do for every size of plate the diagonal of which is not greater than nine inches—that is to say, anything from 7½in. × 5in. downwards. As a matter of fact, the limit covered is a little over 90°, and we may safely take twice the camera extension as the longest dimension of the plate covered, rather than its diagonal.

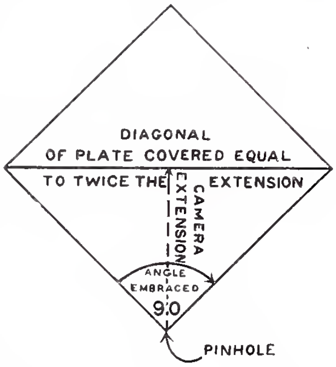


Fig. 7.

For those who measure their needles themselves, I give here a table of the minimum extension for each size of English plates, and of the size of needles which correspond to such extensions.

Size of Plates.		Minimum Extension.		Diameter of needle corresponding.
English.	Metric equivalent.	Inches.	mm.	Hundredths of a millimetre
4¼ × 3¼	108mm × 83mm	2⅛	54	20·8
5 × 4	127 „ × 102 „	2½	64	22·6
6½ × 4¾	165 „ × 120 „	3¼	83	25·8
7½ × 5	191 „ × 127 „	3¾	96	27·7
8 × 5	203 „ × 127 „	4	102	28·6
8½ × 6½	216 „ × 165 „	4¼	108	29·4
10 × 8	254 „ × 203 „	5	127	31·9
12 × 10	305 „ × 254 „	6	152	34·9
12½ × 10½	318 „ × 267 „	6¼	159	35·7
15½ × 12½	394 „ × 318 „	7¾	197	39·7
23 × 17	584 „ × 432 „	11½	292	48·3
25 × 21	635 „ × 533 „	12½	318	50·4

It must be borne in mind that with all the sizes of plates given above greater camera extensions with larger pinholes than are given in the table may be used; but that smaller extensions or smaller holes cannot be employed, or the plate will not be covered. Moreover, the conditions only apply when the pinhole is opposite the middle of the plate. If the rising front is used for any purpose, the state of things is altered; the new height of the needle above its central position corresponds to the use of a larger plate opposite the centre of which the raised pinhole may be assumed to lie. That being so, a longer extension and a larger hole will be required. For these, as well as for other reasons, it is preferable always to use a camera extension and a pinhole larger than the minimum given in the table, so that if it is found necessary when arranging any particular exposure to raise the front, it can be done without having to get another pinhole and use another extension, which, moreover, will still not allow any more subject to be got upon the plate from the same standpoint, as a little consideration of fig. 7 will make clear.

THE EXTENSION WHEN ENLARGING, REDUCING, AND REPRODUCING.

Everyone knows that when an object very near to the camera has to be photographed the bellows has to be extended more and more the nearer the object is approached. To secure a sharp image, the cases referred to in the heading to this section are those in which a greater extension is necessary than is required for ordinary photography.

These operations, in which critically sharp focussing is very important, present no difficulty when working with a lens, as it can be done easily enough upon the ground-glass under the cloth. They can be performed with equal success with a pinhole, but in this case they require an accuracy in the calculation which is much greater than that necessary for ordinary direct work where there is more latitude in the matter of sharpness.

It was by working on these lines that I was led to put forward the factor of maximum sharpness, which differs from that of my predecessors in this field. Some of these seem to have been based upon observations made in the course of ordinary photography, where a little sharpness, more or less, was difficult to detect, and it is surprising that it does not appear to have occurred to them that by making their trials upon objects copied to the same size, the extension being double that which is required in the ordinary case, a difference in sharpness is much more readily noticed. The conclusion I came to was that in copying same size the maximum sharpness was obtained in millimetres by squaring the total area of a hundred needles of the same number and make as that used to make the hole. The extension, then, is exactly ten thousand times the square of the diameter of the hole itself expressed in hundredths of a millimetre. The extension when copying the same size being double that for ordinary work, I only had to divide my first result by two to ascertain this latter. It was from this that the factor 8 applied to the diameter of a hundred needles was obtained.

The relationship between the extension for ordinary work and that for copying same size being as one is to two, it follows that the extension in cases of reduction progresses in arithmetical proportion to the degree of reduction, and that, in order to know the extension for maximum sharpness with any reduction it is only necessary to know the extension in ordinary work and the degree of reduction.

Clearly, the ordinary extension—the focus for infinity, or focal length as it may be called, although the word focus is hardly applicable to pinhole images—is that which is required for reduction to the smallest possible scale. This gives us the data from which we set out; all other reductions are upon a larger scale, and require a longer extension in proportion to that scale, increasing more and more as the reduced image gets bigger and bigger, until at last it reaches the size of the original, when the camera extension will be found to have doubled.

A pinhole portrait. *By M. Crestin.*
Exposure twelve seconds on an orthochromatic plate, with a pinhole thirty hundredths of a millimetre in diameter.

Going on from this, it is only necessary to add to that extension the smallest possible fraction for the operation to become one of enlarging. The extension increases little by little with the degree of enlargement, until at a distance of three times the ordinary camera extension we are enlarging to twice the size.

Enlargement to three times will require an extension four times that for ordinary work. It should be particularly noted that in all these cases the ratio of enlargement is added to the ordinary extension, which is represented as 1. Thus we get the following:

PHOTOGRAPHY WITH A PINHOLE.

The extension for copying the same size (ratio = 1) = 1 + 1, *i.e.*, double the ordinary extension.

The extension for enlarging to double size (ratio = 2) = 1 + 2, *i.e.*, triple the ordinary extension.

The extension for enlarging to triple size (ratio = 3) = 1 + 3, *i.e.*, quadruple the ordinary extension; and so on.

It will now be found to be a very simple matter to find out the camera extensions in the various cases of enlargement, copying, and reduction for any given pinhole the ordinary extension of which is known. I will give some examples, taking as a case in point that of a needle making a hole of a diameter of 35 hundredths of a millimetre, in which case, as has already been shown, the ordinary extension for maximum sharpness is 35 × 35 ÷ 8 = 153 millimetres.

Reduction to one-third size. To effect this with such a pinhole, we take the ordinary extension = 153 mm., and add to it one-third of itself (51 mm.), getting 204 mm., which is the extension required. The next question is the distance at which the subject ought to be placed in order to obtain this reduction to one-third. As the relative distances of subject and copy from the pinhole are proportional to their sizes, if the subject is three times the size of photograph of it that we are making, it must be three times as far from the pinhole as the plate is. We have already found that the position of the plate should be at 204 mm. from the pinhole, so that the position of the subject must be 204 × 3—that is to say, 612 mm. from the pinhole.

A *résumé* of these two operations—the calculation of the camera extension and of the subject distance—is given in the following arithmetical formulæ, followed by a few other similar ones giving examples of other reductions. The working out of the first, which has been explained in detail above, will serve to make the others readily intelligible.

REDUCTION TO ONE-THIRD.

$$\text{Camera extension} = 153 + \frac{153}{3} = 204 \text{ mm.}$$

$$\text{Subject distance} = 3 \times \left(153 + \frac{153}{3}\right) = 612 \text{ mm.}$$

REDUCTION TO ONE-FOURTH.

$$\text{Camera extension} = 153 + \frac{153}{4} = 171\tfrac{1}{4} \text{ mm.}$$

$$\text{Subject distance} = 4 \times \left(153 + \frac{153}{4}\right) = 635 \text{ mm.}$$

REDUCTION TO TWO-THIRDS.

$$\text{Camera extension} = 153 + \frac{153 \times 2}{3} = 255 \text{ mm.}$$

$$\text{Subject distance} = \frac{3 \times \left(153 + \frac{153 \times 2}{3}\right)}{2} = 382\tfrac{1}{2} \text{ mm.}$$

COPYING TO SAME SIZE.

Here the formula is not a complicated one, the extension being double the ordinary extension, so that if we take as a case in point that of a pinhole thirty-five hundredths of a millimetre in diameter, as in the preceding examples, which requires therefore an ordinary extension of 153 millimetres, the formula is as follows:

$$\text{Camera extension} = 153 \times 2 = 306 \text{ mm.}$$
$$\text{Subject distance} = 1 \times (153 \times 2) = 306 \text{ mm.}$$

In other words, when the image is to be the same size as the original, the subject must be the same distance on one side of the pinhole that the plate is the other.

ENLARGEMENTS.

The formulæ in the case of enlargements are only a continuation of those which have just been given. As I have pointed out, the extension ceases to be one of reduction when it is increased by one—that is to say, when it has reached to double the ordinary extension which is our unit throughout. Beyond this point it is an enlargement extension. The formula for enlargement may be put in the same form as that of reduction. For example, we dealt above with the case of reduction to seven-eighths. We could in the same way have considered one of reduction to eight-eighths, if we can use such a bull, the meaning of which is clear enough. Our reduction then would have ceased to be reduction, and we should be copying same size. We only have to go one step further, and, instead of dealing with seven-eighths or eight-eighths, make it one of nine-eighths, and we are enlarging, using exactly the same formula to get the data that we require.

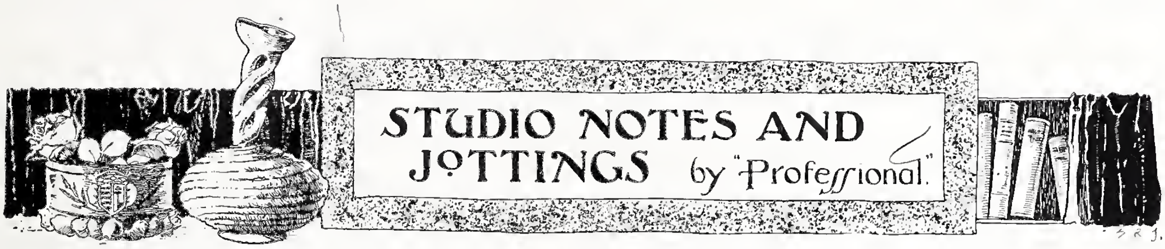
It has been pointed out that in reducing, the distance of the subject is always greater than the camera extension; in copying same size, the two are identical; in enlarging, the distance of the subject is always less than the camera extension. This and the reason for it are clearly shown in the example we will take of enlarging to one and one-eighth times the original—that is, to nine-eighths. We will assume still that we are using a pinhole thirty-five hundredths of a millimetre in diameter, the ordinary extension for which is 153 millimetres, and will work it out exactly as we did the reductions then:

$$\text{Camera extension} = 153 + \frac{153 \times 9}{8} = 325 \text{ mm.}$$

$$\text{Subject distance} = \frac{8 \times \left(153 + \frac{153 \times 9}{8}\right)}{9} = 289 \text{ mm.}$$

Here again the distances are seen to be proportional to the sizes of the subject and image. For ignoring minute fractions, 325 : 289 : : 1⅛ : 1.

To sum up, we may say that to find the camera extension for any given degree of enlargement, we add one (representing the ordinary extension) to the ratio the enlargement desired bears to the original, and multiply the ordinary extension by the result of that addition, whatever it may be. Thus to enlarge to three times, we add one to three = 4, and know that our camera extension must be four times the ordinary extension. Moreover, as our enlargement is to be three times the size of the original, we know that the subject must be just one-third as far from the pinhole on one side as the plate is on the other.



STUDIO NOTES AND JOTTINGS

by "Professional."

THE PRICE OF PORTRAITS.

A PROFESSIONAL photographer recently under examination in bankruptcy stated as one cause of his failure that: "The photographic business was so cut up now that it was like selling herrings—eighteen for a shilling." A bankrupt would, naturally, take a dismal view of the profession, but I doubt if the price of photographs shows this general decline, nor can I see any signs that good work is worse paid than in former years. Twenty years ago the average price for a dozen cabinets was £2, this being the charge of firms like Messrs. Downey and Sons, Hills and Saunders, Valentine Blanchard, Elliott and Fry, and Bassano. Van der Weyde charged £3 for twelve cabinets; Mayland, Mayall, and Midwinter £1 10s. per dozen, whilst Mr. Jabez Hughes was content with £1 10s. for twelve cabinets in carbon. These are certainly not red herring prices, nor could they be described as excessive. Jabez Hughes, a first class photographer and widely known, was only charging 30s. for twelve cabinet carbons in 1882; at the present time photographers of far less standing than Jabez Hughes obtain at least 35s. for a dozen platinums or carbons of cabinet size. In firms of the standing of those mentioned above, prices have certainly gone up, and they expect, and obtain, more than £2 for a dozen cabinets. What firm would now supply six panels for three guineas? In West End studios the charge is more likely to be three for six guineas. Compared with twenty years ago the price of high class portraiture has gone up and the photographer who takes to heart Robinson's motto, "Aim High," need not dread the herring business and eighteen for a shilling. Low prices have always existed, for in 1867 a dozen cartes could be had for 3s. 6d. This is simply a cutting rate which experience has proved it is impossible to maintain. A photograph cannot be made and sold at a profit for 3½d., and those who attempt these cutting rates are sure to fail.

THE COST OF PHOTOGRAPHS.

FEW persons outside the professional ranks understand why it is that first class portraits command such high prices. Now that a knowledge of photography is a common possession, and every family contains its amateur photographer, it is not unusual for the curious to add up the cost of plates, chemicals, paper, and mounts, and compare the result with the professional's charge. By such a comparison it appears that portraits can be produced at very low rates, and that the photographer is making seventy-five or eighty per cent. profit. Based on such calculations, many persons commence a business to sell portraits, like herrings, at so much the dozen, and at prices far below the average. They never succeed in their endeavours, because photographs cannot be sold at a price which gives a bare profit on the cost of production. Besides the cost of material, the photographer has to pay a large proportion of his return in wages, and another heavy item is the maintenance of his studio, dressing rooms, reception room, and workrooms. All these costs must be added to the bare cost of material before the price can be fixed. This, however, is not the final determination, for, unfortunately, photography is largely a season trade, and the demand for portraits is liable to fluctuate. For these reasons photographs cannot possibly be sold at a fifteen or twenty per cent. profit, since the photographer is compelled to make a large return on all work done to tide him over the slack season and times when trade is depressed. In a successful photographic business the profit on work done is perhaps fifty per cent.—some claim seventy-five per cent.—yet in spite of this the annual nett profit may not be more than ten per cent. on the turnover. From the nature of the photographic business gross profits must always be high, for the photographer could never survive on a five or ten per cent. profit on the cost of production. From this it seems to me that even to attempt to sell photographs at so much a dozen, like herrings, or rashers of bacon, is to court financial disaster.

PHOTOGRAPHER'S NAME AND REPRODUCTION.

IT is the recognised practice with editors and publishers when using non-copyright pictures for reproduction in papers and books to place the photographer's name and address under the photographs. This is done as an acknowledgment of the authorship and to give a gratuitous advertisement for the use of the photograph. The value of this form of advertisement is open to question. In some cases it may lead to results in hard cash from new clients; more often no substantial benefit is derived. If photographers were canvassed I think it would be found that the majority are against this form of publication with or without their names appearing, and this mainly on technical grounds. With the exception of a few periodicals using a high surface paper, such as *Photography* is printed upon, the general run of photo-mechanical printing fails to bring out the real quality of a photograph. It is this failure to show their work at its best to which most professionals object. A bad reproduction of some well known sitter, in an influential paper, may seriously damage a photographer's reputation. Opinion, however, is divided on the question

A Moorish house in Fez (see page 17).

of the value of a name on a reproduction, and this was curiously shown in a recent County Court case at Leicester. Mr. H. M. Ward, a photographer, sued a firm of printers for £50 damages for breach of contract in failing to print his name under certain published photographs. Mr. Ward considered that by the omission of his name he had lost an advertisement of incalculable value. Mr. J. W. Heawood, also a photographer, in giving evidence, said that: "In his experience he had not found that it was of much advantage to have the photographer's name under the reproduction. He generally stipulated that his name should go under a reproduction, but he should not think it very serious if the name were omitted." This opinion I am inclined to agree with. A name under a photograph can do no harm, though it is hardly equivalent to a solid cash payment. In the case cited the photographer was awarded £5 damages, but this was given more for a breach of agreement than as compensation for the loss of "an advertisement of incalculable value."

OBLIGING THE AMATEUR.

THE holiday season is now with us, when the amateur photographer is abroad in the land, seeking out a nice convenient dark room, which is frequently only to be found attached to the professional's studio. He is a most charming fellow this knight of the camera, having a ready flow of photographic small talk, with a delightful disregard of the value of the professional's time. His appearance and conversation are so taking that the photographer usually grants the use of his dark room "just for five minutes to change my slides." Once safely in the dark room it becomes a problem to turn him out again. The five minutes become ten, twenty, anything up to sixty, and he still holds possession. Having a sitter waiting you knock at the door, asking how long he will be. "Not two minutes. I'm putting in the last plate," he replies cheerfully. The two minutes lengthen to ten, your sitter is becoming impatient, and you again attack the dark room door. This time he is "awfully sorry," proceeding to enter upon a full account of the manner in which he filled the slides with exposed plates by mistake and, happily, discovered his error in time, and is now filling in the last plate. After this, a defect in his dark slides, or a hundred and one misfortunes, may delay him before he can emerge in triumph with the dark slides. Meanwhile, you are perilously near losing one of your best clients. To do all we can to encourage a better feeling between amateur and professional is most praiseworthy I am sure, yet some things cannot be asked of any man, and the one thing the professional cannot give is the use of his dark room to the detriment of his own business.

PRICE LISTS AND POETRY.

SHOULD a history of professional photography ever be written it will resolve itself for the last fifty years of the nineteenth century into a biography of H. P. Robinson, for we cannot go far in any direction without meeting with evidence of Robinson's ideas and actios. He practically stood at the head of professionals, being their leader, and his influence has moulded portrait photography into its present form. We are all doing, more or less, the things that he originated, and if the matter were probed it would be seen that Robinson, through his writings and practice, was an educational force the influence of which has been widely felt, and is still active. Some years ago, at the time when Robinson was in business at Tunbridge Wells I happened to come across one of his price lists. This was a small, single fold piece of stiff paper, having nothing remarkable about it, and yet I still remember it because of one original feature which marked it out from all other price lists. This feature was a poetic quotation, having some reference to photography, at the top of each page. On the front page was the couplet:

"How little is the cost I have bestowed
In purchasing this semblance of myself."

Another read:

"For I have heard it said there is an Art
Which share with great creative Nature."

These, I fancy, are from Shakespeare, for I have forgotten the reference. A third was from Milton, and it reads almost prophetic of photography:

"When with one virtuous touch the
Alchemic Sun, so far from us remote,
Produces with terrestrial humours mixed,
Here, in the dark, so many precious things
Of colour glorious, and effect so rare.'

The fourth poetic lines I have forgotten. The price list I have remembered for twenty-five years, chiefly because it revealed photography to me under a new aspect.

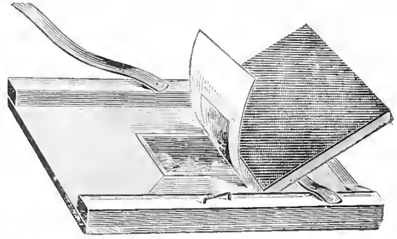
Winchester Cathedral.

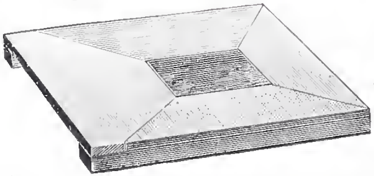
Winchester Cathedral will ever be a popular resort for the photographer, who will find in it many nooks and corners capable of keeping his camera busy for many a long day. Grand masses of lights and shades are to be secured there, and good compositions abound on every hand to those who can see them. The west front with its large window, the southern side from the deanery garden, and the east end of the cathedral are all worthy of consideration, but it is in the interior that the photographer will find the greatest scope. The nave is stately, perhaps more entitled than any other cathedral in England to that epithet. The aisles are well worth attention, and good material is to be found in the north transept with its massive Norman arches. The reredos is a fine piece of work from an architectural point of view, and the choir stalls and the choir looking both east and west claim attention. The chapels and chantreys of Wykeham, Gardiner, Fox, Beauforts, and Langton should all be studied, and a plate reserved for the fine Norman front, the south and west sides of which are very fine; nor should the deanery and its grounds be passed by. Permission to visit both the cathedral and the deanery is given by the Dean.

S. L. C.

The Marriott Postcard Printing Frame.

Printing postcards from a quarter-plate negative in an ordinary printing frame is rather a troublesome operation. A frame larger than the negative must be selected, fitted with clear glass, and the negative held in the centre, after which it must be masked. That a special printing frame should be devised was inevitable, seeing the extent to which the photographic postcard has become popular.





The Marriott printing frame, introduced by Messrs. G. Houghton and Sons, of 88-89, High Holborn, meets the case exactly. As will be seen from the illustrations, the frame is larger each way than the negative, which drops into a rebated opening, and as the rebates are a trifle wider than those in a dark slide, they cover up the clear edges of the negative. If the whole of the subject is to be printed on the card no other mask is required. The card can be adjusted to bring the picture into any position, and by fitting a sheet of clear glass in the opening, film negatives may be printed from.

MARINE PHOTOGRAPHY. An affiliation lecture on this subject is in course of preparation, Mr. F. J. Mortimer having been asked to do it.

PHOTOGRAPHY, No. 764, Vol. XVI.

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NOTICE TO CORRESPONDENTS.

All letters, advertisements, etc., must reach the office on Friday morning to ensure being dealt with in the issue for the next week. In cases of great urgency, letters delivered up to the first post on Tuesday morning may be in time to receive attention, but this cannot be guaranteed.

Communications for the Editor should be addressed, The Editor of *Photography*, 3, St. Bride Street, London, E.C.

In all publishing matters, letters, orders, etc., should be addressed, Iliffe & Sons Limited, 3, St. Bride Street, London, E.C.

Advertisement copy and orders, and these only, should be sent to the printing works. They should be addressed Iliffe & Sons, Limited, Coventry.

LEADER

Limits of Accuracy in Finders.

Last week in our leading article we dealt with some of the defects of the finder which had called forth the complaints of our correspondent, "Utterly Disgusted." We pointed out the curable defects in finders, and deferred the consideration of their incurable ones until a later occasion. That occasion has now come.

Fez from the mountains.

Assuming that the angle included by the finder is the same as that included by the camera when focussed for infinity, and that the optical axes of camera and finder are parallel, it must not be supposed that the image on the finder is in every sense an exact replica of the image given in the camera. It may, or may not, be near enough for all practical purposes; but it can never be the same, identical in every way.

There are two reasons for this. In the first place the axis of the finder, although parallel with that of the camera, is not coincident with it. For distant objects this is unimportant, but, as the objects get nearer and nearer to the camera, their relative positions on the screen of the finder and on the plate alter. If, as the camera is brought nearer and nearer to the object, the image of the latter is kept central on the plate, the image on the finder will be found gradually to move away from the centre towards that corner of the screen of the finder which is nearest to the centre of the plate itself.

This gives rise to an inaccuracy which nothing can prevent in practical work. The finder might be so fitted, no doubt, that as the camera was focussed for nearer and nearer objects, the axis of camera and finder were made so to converge that the object focussed should always be in the same relative position in both. But such a refinement would be costly, complicated, and unpractical, and even if it were applied, its advantages, slight as they are, would be neutralised by the existence of another defect, which is also inherent in finders.

This other one is caused by the fact that the camera may be "focussable," while the finder is of fixed focus. Every photographer knows that as he brings his camera nearer and nearer to an object he has to rack out his lens more and more in order to focus that object sharply, until at last when the image is the same size as the original the distance between lens and plate is just double what it was between them when the object was at "infinity" distance. Not only is the size of the image altered, but also the angle included by the lens. A lens which is a "wide-angle" one when used on a quarter-plate for, say, ordinary architectural work, is by no means a wide-angle one when used on the same size plate for copying the same size. If as wide an angle is to be included it must in this latter case be used on a whole-plate. But the finder lens, owing to its relative shortness of focus, may be used at "fixed focus" for objects much nearer to the camera than can the lens in the camera itself, and so we find that when near objects are being dealt with, the finder will include more of them than we get on the plate, and that this defect becomes more and more marked the nearer the objects are to the camera itself.

LIMITS OF ACCURACY IN FINDERS.

Of course, in by far the greater number of instances, the defect is by no means so marked as it would be in the case we have supposed, namely, copying full size, but it is often quite bad enough to upset altogether the calculations of the photographer. It begins to assert itself the moment he racks out his lens from the infinity point, and should be allowed for accordingly.

We have not yet exhausted the deficiencies of the finder.

Some cameras are fitted with rising fronts, but are so arranged that the finder remains on the baseboard. In such a case, the moment the front is raised the finder becomes more untrue, although this can to some extent be got over by pencil lines on the finder screen indicating the extent to which raising the front affects the image in the camera.

In other cases raising the front raises the finder. This is almost as bad, for the effect upon the image of raising the finder bodily is much less than that of raising the lens of the camera. This can easily be seen by noting the difference between (1) the image on the screen of the camera with the lens central, (2) the image when the lens is raised say two inches, (3) the image when both camera and lens are raised two inches. By raising lens and finder simultaneously we effect change No. 2 upon the camera image, but change No. 3 upon the finder image, and it will be seen that there is all the difference between them.

We hope we have said enough to show "Utterly Disgusted" that the finder is by no means an infallible guide, and at the same time to indicate the conditions under which it ought to work, and the limits within which it is approximately correct.

Spirit of the Times

ACETONE SULPHITE IN INTENSIFICATION. Although different methods of intensification arise from time to time, the one that stays is that in which mercuric chloride is used as the bleaching agent to form a mercuro-silver chloride of the image, which is then blackened with some suitable chemical. This being the foremost method, then, it is important to take note of any improvement that may be suggested as regards the blackening. It may be taken for granted that a mixture of corrosive sublimate, ammonium chloride, and hydrochloric acid cannot be improved upon for the bleaching bath, and, therefore, progress can only lie in the direction of the redevelopers. No little contention seems to exist between certain authorities regarding the new compound, acetone sulphite, for this purpose. Dr. Precht claims that it possesses very distinct advantages over sulphite, and the reproductions of certain of his results which we have examined certainly lead us to think his theory is correct. A formidable opponent of his views is Dr. Eder, who regards acetone sulphite as having no apparent advantage whatever. The reblackening obtained with sodium sulphite unquestionably weakens somewhat after a certain stage, and it is claimed that this does not happen with the acetone compound, and that far better gradation results also from its use. Acetone sulphite imparts to the film a greenish-brown coloration, which makes an originally black negative look rather like a pyro-ammonia developed one; but certainly no weakening of the blackened image seems to take place. In experimenting with it, we left a negative in a strong solution of acetone sulphite for over a quarter of an hour in one case, and the result seemed more satisfactory, if anything, than similar plates treated with ammonia or sodium sulphite. The advantage, if any there be, is at any rate one which will make itself evident in the course of a few experiments.

A mosque gate in Fez (see page 17).

* * *

TO OUR CONTRIBUTORS. We should like to take this opportunity of drawing the attention of our contributors to the announcement given below. We are most anxious at all times to secure for our readers the best that is going in news, articles, and illustrations, and invite their co-operation. We have long held the belief that the customary and almost universal practice of paying for contributions when, or, rather after, they are used is not fair to the contributor, and we now propose to abandon it, except in the case of members of our regular staff, whose position is a little different. We should like, at least, to have the refusal of every photographic article of any value that is going. We cannot accommodate all, but have always room for the right sort. To secure such, we propose in future to decide without delay whether we are prepared to purchase any contributions sent us, and to pay on the nail for those which the contributor is willing to sell at our price. To prevent any disappointment, we should like to point out that we do not pay on any fixed scale, nor even do we pay for all contributions from the same contributor at the same rate; but are prepared in all cases to make an offer for suitable work sent us.

* * *

DARKROOM PRECAUTIONS FOR THE SUMMER.

Hitherto we have had little in the way of sunshine to congratulate ourselves upon this spring and summer, yet bright days have occasionally been vouchsafed to us, and more we hope are to follow. When the murky clouds under which we have been living are dissipated, darkrooms which have hitherto been safe may possibly no longer be so. Ruby and canary media, however fast the colours may be, become bleached in time, coloured varnishes laid on glass wear thin, crack, and if closely examined show multitudes of fine pinholes through which the white light streams. Even stained glass may become a source of danger in the brighter light, unless one remembers to retire to a greater distance from it, in proportion to the intensity of the sunshine. These cautions apply more particularly to those who adopt the doubtful course of illuminating their darkrooms with daylight. When artificial light is used, a periodical overhauling of the coloured media used in the darkroom lamp is still desirable, and should take place, and those who employ the fastest plates they can procure may be reminded that there has been a vast increase in the speed of both plates and films this season.

* * *

ROLL FILMS AND CLOUD PHOTOGRAPHY.

The serious worker—the man who makes himself a martyr to his 15 × 12 camera and rejoices in the sacrifice—is still a little inclined to regard with an amused smile the ladylike compact roll film camera carried by his less heroic brothers. A kindly toleration of their weakness is about the farthest he can go, yet it is worth a little consideration whether the "toy," the "plaything," might not prove a means of achieving even his artistic ends. Granted, for the sake of argument, that it is only upon a large focussing screen that the full effect of the masses can be judged and differential focussing be brought into play, and that if large landscapes are to be made they must be taken direct to the full size they are to be printed—granted all this, and more besides, what is it that the large plate worker demands? Skies, and yet more skies. These may be taken as well with the hand camera as with one supported on a tripod. No differential effects in focussing such subjects are called for. It is sufficient that the lens should be focussed for parallel rays, and that it should cover the film from corner to corner; if at a large aperture, so much the better, for then an orthochromatic film and colour filter may be used. There is no need to spend time and money in enlarging every negative that is made. Printed in carbon on glass, a huge gallery of cloud subjects may be accumulated easily and inexpensively from which, when a sky is required for any particular subject, a selection may be made, and an enlarged negative of any desired character turned out. And then, the simplicity of it all; a camera weighing half a pound, and three or four spools in the pocket. What serious worker would hesitate to expend them upon remote possibilities that would scarcely warrant the use of a shilling plate?

RAPIDITY OF DEVELOPMENT.

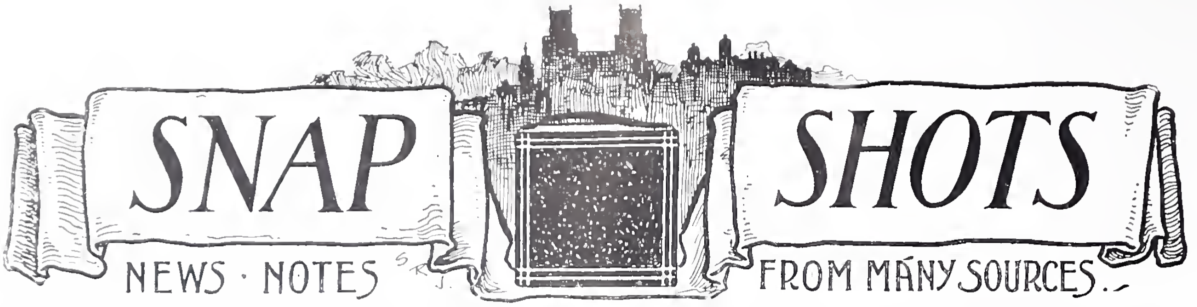
The relative activity of the many organic developers seems to be ruled by no fixed law as regards constitution, and the apparent vagaries of those met with ordinarily are of no little interest. Thus, according to Gaedicke's article in a recent issue of *Photographisches Wochenblatt*, plates exposed under a sensitometer, and developed until the same figure appeared with each agent tried, gave the following results: With rodinal the image appeared in twenty-five seconds and was complete in three minutes, with hydroquinone it appeared in thirty seconds and took five minutes to complete. The results show, like other tests of a similar character, that metol is the most rapid of any. While the hot weather lasts, a slow working developer will probably be found the handiest to use, for it must be remembered that very fast plates are always slightly liable to fog with such rapid agents as metol and pyro.

* * *

THE AFFILIATION AND THE RED BOOK.

Delegates from a number of the affiliated societies attended at Russell Square last week to hold the midsummer general meeting, and a commendable spirit of energy and enterprise was manifested. Various propositions, such as a print competition and a repetition of the late successful lantern slide competition, were thrashed out, and the slight divergences of opinion amongst the society representatives amicably adjusted. A serious matter, in the form of the increasing cost of the Red Book, which is so justly popular, was brought forward, and it was pointed out by the executive that, unless some means were found of reducing or reimbursing the cost, it would hamper the work of the affiliation in other directions. The book has proved so useful in bringing the societies into closer contact that it would be a most unfortunate set-back if it were to be abandoned. To diminish the contents would be equally objectionable. The resolution passed that each society should be asked to purchase at a penny each sufficient copies for its members appeared to be the only way out of the difficulty; but it must be quite understood that unless this suggestion is unanimously adopted, the scheme must fall through. It would be ruinous to the affiliation to grant to some societies, even for payments made, privileges not enjoyed by others. It remains to be seen if the societies will have the public spirit to adopt this course; the actual outlay involved would hardly seem likely to act as any serious deterrent.

The Mulai Idress Mosque (see page 17).



SNAP SHOTS

NEWS · NOTES FROM MANY SOURCES

A PHOTOGRAPH IS NOT A NECESSITY, said Judge Emden, at the Lambeth County Court, and ruled that the husband's authority to pledge his credit must be obtained before such a debt could be recovered. Mr. Brock, the plaintiff, said that this ruling would greatly interfere with the business of photographers.

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THE EXHIBITION of the South London Photographic Society will be held from the 5th to the 12th of March, 1904. A gold medal is offered to the best picture in the exhibition, irrespective of class, and silver and bronze medals are placed at the disposal of the judges. Particulars can be obtained from the honorary secretary, Mr. W. Calder Marshall, of 41, Glenton Road, Lee, S.E.

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A METHOD OF TONING and intensifying under exposed gaslight prints is, after fixing and washing, to place them in an old gold toning bath, such as is used for P.O.P. The image gradually gains in strength and takes on a good steely blue tone. The quality of the print resembles one made by the carbon process, and I have found the results permanent.—A.J.W.

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A GENERAL MEETING of the delegates to the Affiliation was held on the 25th ult. Arrangements were made for a print competition amongst the societies, and for a repetition of the lantern slide competition next year. It was stated that the production of the "Red Book" was proving a heavy tax upon the revenue of the Affiliation, and it was resolved to take the opinion of all the societies as to whether they would pay a nominal price for it or prefer to see it discontinued. A meeting of the secretaries was also arranged for.

PHOTOGRAPHS OF THE RECENT FLOODS in Essex are asked for by Mr. Briscoe, principal of the Municipal Technical Institute, West Ham, in order that they may be preserved in the Passmore-Edwards' Museum.

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"EVERYTHING PHOTOGRAPHIC" is the title of the new catalogue issued by Mr. Andrew H. Baird, of 33, Lothian Street, Edinburgh. If it does not contain everything allied to photography, it is at least a very comprehensive price list.

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A MOVEMENT IS ON FOOT in Newton-Stewart to form a camera club for the district. The scheme should certainly be pressed forward, for it is only by co-operation that photographers in isolated districts can obtain those benefits which those resident in large towns possess.

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EDINOL AS AN UNIVERSAL DEVELOPER was lectured upon at the Southampton Camera Club on the 22nd ult. by Mr. W. H. Trigg, who found it, in conjunction with acetone sulphite, invaluable in cases of over-exposure. He advised the use of acetone sulphite with it, both for bromide paper and for negatives, imparting as it did great brilliancy to the image.

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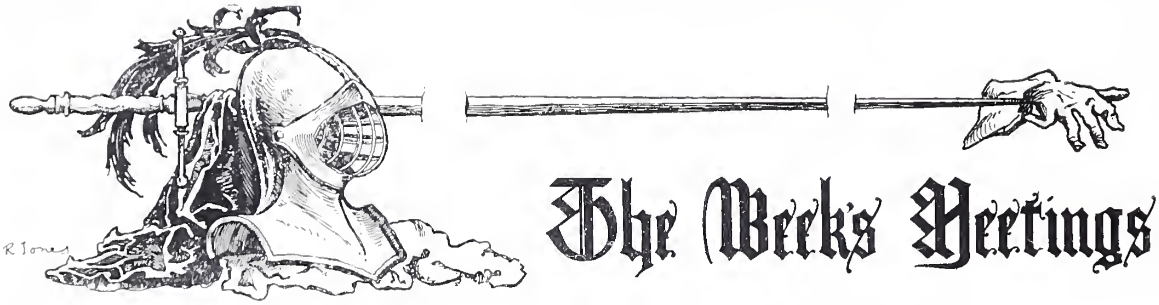
THE ANGLO-CELTIC IS A BRITISH INTERNATIONAL POSTAL PHOTOGRAPHIC SOCIETY founded last month, and limited to thirty members. Mr. Godfrey Lipscomb is president. The committee consists of Miss M. McLauchlan, Mrs. Frank Bradley, and Robert Low. The honorary secretary is Mr. A. Emerson Morris, of 6, Richmond Terrace, Port Talbot. Each member is permitted to contribute one whole-plate or two smaller prints to the portfolio, which is circulated for helpful criticism and comment.



The Week's Meetings

THURSDAY, JULY 2ND.

N. W. London. Toning and Fixing P.O.P. H. S. Date.
Hull. General Meeting.
Rontgen. Annual General Meeting.
Watford. Informal Discussion and Consideration of Members' Work.

SATURDAY, JULY 4TH.

EXCURSIONS.

Hackney. Oxshott.
Croydon Nat Merstham and Border of North Downs.
Ilford. Low Street.
Hull. Hacking Ferries.
Halifax. Colden Valley for Heptonstall.
Cricklewood. Aldenham.
Catford and Forest Hill. Tunbridge Wells.
Blackburn. Darwen Park.
Barrow Nat. Broughton.
Woolwich. Albert Docks.

MONDAY, JULY 6TH.

South London. Orthochromatic Photography. H. E. Edmeads.
Southampton. Print Competition, "Still Life."
Bradford. Beck Foot. Excursion.
Walthamstow. Annual General Meeting.
Dewsbury. Meeting.

TUESDAY, JULY 7TH.

Rotherham. Telephotography. E. Marriage.
Nelson. Trimming and Mounting. A. Smith.
Batley. Aberford and Barwick in Elmet. Excursion.

WEDNESDAY, JULY 8TH.

Southampton C.C. New Forest. Excnrsion.
Leeds C.C. Meanwood. Excursion.
Cricklewood. Meetings.
Croydon C.C. Dover. Excursion.
North Middlesex. Defects and their Remedies. E. Dockree.

THURSDAY, JULY 9TH.

Hackney. Town Work.
Barrow Nat. Paper Pulp Works.
Watford. Social Evening.

SATURDAY, JULY 11TH.

EXCURSIONS.

South London. Hogsmill River.
Boro. Poly. Hampstead Heath.
Ilford. Burnham-on-Crouch.
Bristol. Ashton.
Walthamstow. Hawk Wood, Chingford.
Leeds C.C. Hull.
Dewsbury. Ryhill.
Blackburn. Hoghton Tower.
Hackney. President's Outing and Sports.
Croydon Nat. Photographic Meeting.

Societies will have their meetings announced here the syllabus is sent to us at the beginning of the Session, or from time to time.

A PHOTOGRAPHER IN SUNSET LAND

Written & Illustrated by **JOHN A. AVERY**,
Court Photographer to His Shereefian Majesty
Mulai Abdul Aziz, Sultan of Morocco.

II. THE SACRED CITY OF FEZ.

SITUATED in a valley surrounded by hills and mountains, the colours of which throw into prominence the myriads of white square-cut box-like houses, each of a different shape and size from its neighbour, Fez has undoubted claims to be recognised as the first and most picturesque of Oriental cities.

Viewed from the green slopes of the "Jubal Nazala," Fez instinctively brought to my mind the impressions formed in early childhood of a fairy city.

Springing from the mass of buildings are numbers of brown, green, and golden-hued mosque towers, all apparently circling around the Mosque sacred beyond all others—the Mecca of all Moroccians—Mulai Idress, the minaret of which rises from a collection of green tiled vaulted roofs, and forms an ideal centre piece for this extraordinary city.

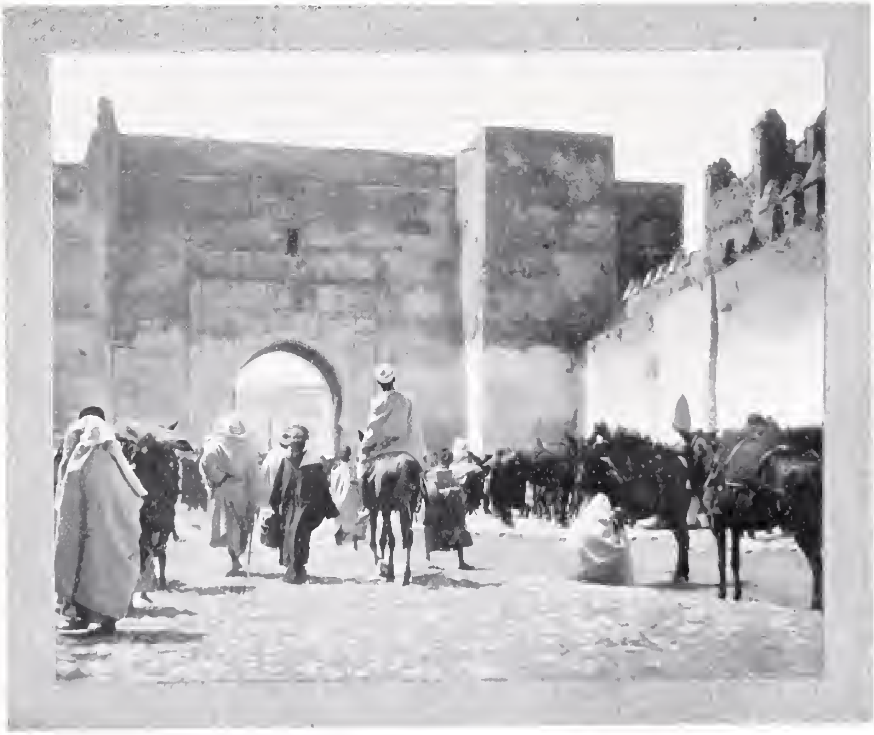
Like nearly every other Oriental town, Fez is surrounded by a wall of more or less reputed stability, this wall being pierced by eight winding gateways, and is guarded on the north and south by two huge triangular moated forts of immense thickness, which are undoubtedly of sufficient stability to prevent a native force from entering.

The town gates do not by any means impress one, being, without exception, of poor construction, and extremely dirty. The "Bab Mbroke," which I show, is one of the best, and is notorious as being the particular gate on which all heads taken in battle are publicly exhibited. The heads are hung from the series of small holes running along the top.

Each gate is guarded by several soldiers, and is in charge of certain custom officials, who levy an "octroi" on all produce brought into the city for sale. So well are the gates kept, that it is only with extreme difficulty strangers can enter unknown, and the quantities of arms one sees stacked in the arches testify to the officials' astuteness in preventing the traffic in contraband—a traffic carried on to excess in many other parts of the country.

Immediately outside the town are the cemeteries. The Moorish idea seems to be that any spot is suitable as long as it is outside the wall, the result being that graves are scattered all over the place, but in all cases the body is placed due east and west. The picture of the cemetery was taken outside the "Bab El Gezhar," and gives a very good idea of the appearance such places present.

To describe Fez properly would necessitate con-



The main entrance to the Royal Palace and Treasury.

siderably more space than I have at my disposal, so that I can only touch on the more important features. It consists of two parts, Old and New Fez. Old Fez is in the valley, and is so closely built that I do not think one single open space is to be found, and the majority of the streets are so narrow that it is impossible for two mules to pass each other. The houses jut out into the streets, almost touching overhead, and in many cases the streets are built completely over. A walk through them is akin to a visit to an underground city—all is gloom and murkiness. New Fez, being built on the higher ground, is much brighter. It contains the royal palaces, Government houses, and the various official quarters.

The few private houses here nearly all have large gardens. It is undoubtedly the better part to live in. My house, of which I show a small picture, was in one of these gardens, and is fairly typical of a residence in this quarter.

Apart from the above, New Fez is of little importance, and is not nearly so interesting as its elder brother, for it is in Old Fez that the real old families reside, and many of the larger houses rival the Alhambra of Spain in the glory of their interior decoration. It is here that the great colleges are to be found, and it is here that everything relating to fanaticism is to be met with.

In the centre is the Mosque of Mulai Idress, a mosque so sacred that even the streets leading to its various entrances are closed to "the dog of a Christian," so that it is impossible to get more than a fleeting glimpse of what is probably the most artistically decorated mosque in the country.

Many a time during my wanderings through the town have I stood at the entrance to one of these streets, camera in hand, in the fond hope of being able to photograph the entrance which could be seen in the distance. My attempts were futile, for if I paused more than a few seconds my horse and I would promptly be led away.

Until last August, when the murderer of Mr. Cooper was dragged out by the order of the Sultan, Mulai Idress was sanctuary for all true believers, and the dragging forth of this man caused all the Fezzes to be distinctly bitter towards their Sultan, and also towards all Christians.

The bazaars are the great attraction, and at midday they are crowded with tribes from all parts of the country, and townsmen of all ranks and conditions of life, and every shade of colour, from the extreme paleness of the Fezzes to the ebony blackness of the Soudanese slave wife. Each trade or commodity has its own particular street or quarter; thus, you have the slipper street, dagger street, charcoal street, and so on. The shops are similar to huge boxes let into the wall, with flaps to open in the middle. These open outwards, one half falling down like the tailboard of a van, the other being propped out at right angles to protect the owner from the little sun that filters down the narrow ways, and also to cause the unlucky horse or mule riders considerable anxiety.

The shopkeepers are not by any means anxious to do business, and are quite satisfied if the day's takings amount to a few pesetas. The wear and tear gone through in making the simplest purchase is prodigious. Very often the buying of a single pair of slippers, or a couple of yards of Manchester muslin, occupies a couple of hours of time. But, then, Moors have no idea of and do not value time. There is always a to-morrow, and I feel perfectly certain that the idea of leaving everything until to-morrow must have originated in Morocco.

Near one of the forts on the outskirts of Fez.

Fez is divided into a number of small parts by gates, many of them being very fine. These gates are closed soon after sunset, so that it is not possible for anyone, unless he is of some importance, to wander about at night time. The town is not lighted in any way, so if moving in the dark it is necessary either to carry or to cause your servant to carry a lighted lantern, and the appearance the streets present after nightfall is very peculiar, and not a little uncanny. The Moors, being muffled up to the eyes in "Jellabs," look quite monkish, and the flickering candle lanterns only seem to intensify the darkness.

The water supply is exceptionally fine, and every house is in receipt of a running stream all day long.

A snap shot on the course of the Gordon-Bennett race (see page 19)

The Wad Fez is only a small river some twenty to thirty feet wide, but owing to the careful manner in which it is utilised, it is found sufficient to water the whole town and successfully to irrigate the numerous gardens and orchards in the place. It is conveyed through the city either by underground channels or by aqueducts, many of the latter being superb pieces of Moorish building. Although now falling to pieces owing to their great age, the aqueducts still perform the duties imposed upon them.

With the exception of the bazaars, Fez is given up to religion. Mosques and tombs meet one at every point, each noted for some particular virtue. Sanctuaries dedicated to saints are everywhere, and the number of "sharceps," or saints, living in the town must border on twenty to thirty thousand. Many of these "sharceps" amass large fortunes, and live in houses of exceptional size and beauty. It is, of course, not possible for Europeans to visit any of the mosques, so I cannot say much about them, but judging from the appearance they present viewed from the entrances, they do not rank with our own places of worship.

There are exceptions, and the "Kureein," with its thirty-six entrances, and the mosque at the entrance of the "Bab El Gezhar" contain particularly fine Arabesque decorations, and the gateway of the last is a good specimen of Moorish wood-carving.

An old aqueduct, Fez.

Notes for Photographers at the Gordon-Bennett Race.

"THE first week of July will be a big day for Ireland" was a characteristic remark I heard in Dublin a few days ago. Certainly, the occasion of the race for the Gordon-Bennett cup and the other motor "fixtures" that have been arranged will attract a huge concourse of people, and, we hope, will be the means of encouraging many to re-visit the Emerald Isle in the near future. The charms of Ireland, though often talked of and never over-rated, have hitherto suffered from the reputation not altogether deserved—nor altogether undeserved for that matter—of the Irish hotels.

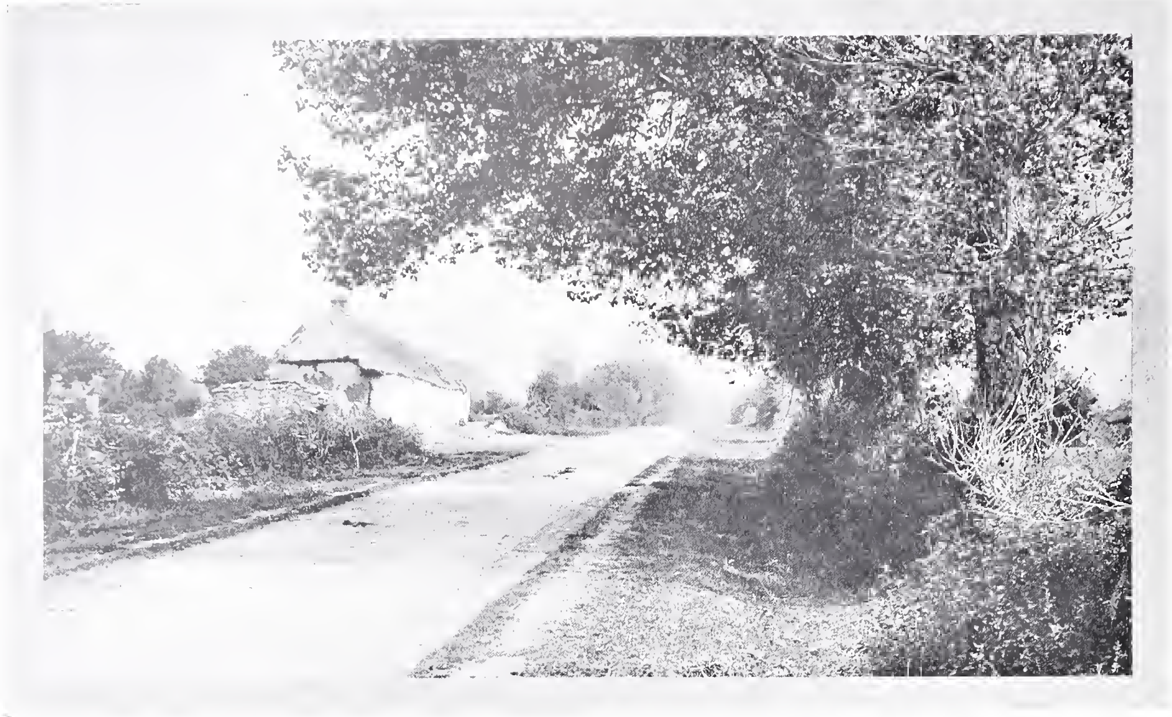
The motor race will be witnessed by many photographers, and will inspire numbers of them no doubt to see what can be done with a fast shutter and fast plates upon fast cars. Everything bids fair to make any instantaneous photography as easy as possible. The light at this time of year is at its best, the country is open, and the route (although well wooded) is not overshadowed with trees, while the number of times which the competing cars go over the course means that the photographer who from one cause or another misses his first opportunity will have another in an hour or so if he chooses to wait.

The writer was over a good part of the ground a few days ago, and being provided with a hand camera, noted a few of the more important scenes of the race. The starting and finishing points are the same, being situated about five and thirty miles south-west of Dublin—quite in the open country. There are near this centre of interest a couple of cottages—one absolutely in ruins; the other trim and neat enough—and Ballyshannon House. This last has been a fine mansion in its time, but on the occasion of my visit was in a most dilapidated condition. It has been taken for the race by the Automobile Club, and some idea of its appearance may be gathered from the illustration. The workmen were fitting it up for the club at the time.

Those who try to secure pictures of the cars as they fly by will be disappointed unless they take the precaution to get where the car may be at a reasonable distance when photographed. Broadside on, a racing car travelling at its top speed requires an exposure of something less than a thousandth of a second if it is to be shown on such a scale as to be about a couple of inches long. This puts successful photography under such conditions out of the question, as the car would appear a black detailless smudge. But if it is taken coming diagonally towards the photographer while twenty yards or so away, the camera may be set for infinity, and a hundredth of a second will give a picture sharp all over and, with fast plates, fully exposed.

The idea that a car must be shown large on the plate and must be taken while travelling at its greatest rate if

Ballyshannon House.



The starting point for the Gordon-Bennett race as it looked before the stands were erected.

it is to suggest speed is really a mistaken one. The attitudes of its occupants and more than all else the success with which the cloud of dust that follows it is rendered are the factors which influence the suggestion of high speed. A car travelling at forty miles an hour on a dustless road does not look in a photograph as if it were going as fast as one going at a half or a third that rate and raising behind it a lofty pillar of cloud. Those who wish their photographs therefore to give the suggestion of high speed will do well to look to the dust and let the cars look after themselves.

For the rest I would advise, where possible, the use of a focal plane shutter, backed plates of course, and exposures in midday ranging in duration from a twentieth to a hundredth of a second, with the fastest plates obtainable, and an aperture not smaller than f/8. E.J.C.

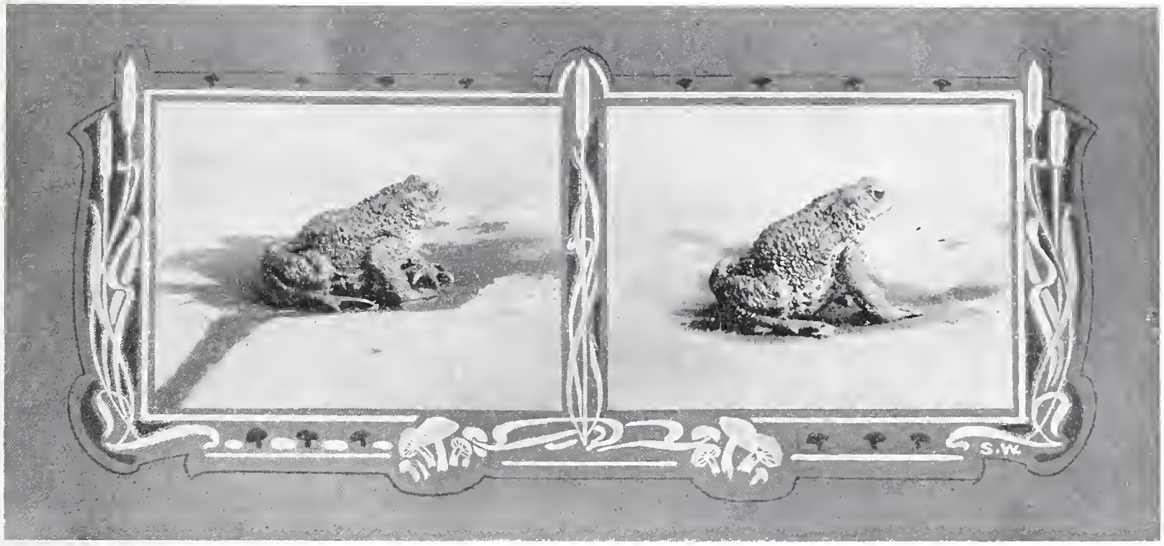
THE "LUNA" PAPERS AND FABRICS. Tests of the Sensitised Silk.

Early in the year we had an opportunity of testing the Luna papers issued by Messrs. Allegre and Co., of 59, Mark Lane, London, E.C. The results of our trials were exceedingly favourable, and we expressed ourselves to that effect in our issue for March 28th. Since then we have repeatedly used the paper when we required prints of a soft character absolutely free from gloss, and our good opinion has grown with our experience of it.

Recently we have been favoured with examples of sensitised silk from the same firm, and have found it quite as simple in manipulation, whilst for the subjects to which it is suited, the nature of the fabric adds an additional charm. The sensitising of the silk is as even as that of the paper, and gives excellent results from negatives showing moderate contrasts. In working small sizes, say up to half-plate, we found it sufficed to spread the silk evenly on a sheet of paper and to attach it by a touch of gum at each of the four corners. Stiffened as it was with the size used in the sensitising solution, it could then be examined during printing with the same freedom as a paper print. For larger sizes it would be desirable to use an actinometer (as in carbon printing) to avoid the possibility of any shift in the image taking place. The gum, of course, must not be allowed to touch any part of the image or a red mark will ensue that will not be obliterated by toning.

The platinum bath, which alone is suggested by the makers, is made as follows: A.—A fifteen grain tube of potassium chloroplatinite is dissolved in forty-four ounces of distilled water. B.—Half an ounce of chemically pure calcium chloride is dissolved in eight and a half ounces of distilled water. The two solutions are mixed and filtered, and nine and a half drachms of glacial acetic acid, or the same amount of lactic acid, or one ounce and threequarters of citric acid are added to the fifty-two and a half ounces of solution. The bath works more rapidly at first than after it has been in stock for some time, and if warm tones are required the new bath should be diluted with a fifth of its bulk of water. An acid bath, made by dissolving one ounce of hypo in a pint of water and then adding half an ounce of sodium bisulphite, is recommended, but we have found that equally good results are obtained with a ten per cent. plain hypo bath.

A platinum toning bath that requires only the chemicals ordinarily found in the photographer's laboratory, and which gives equally good tones, is: Citric acid, 60 grains; water, 2 ounces; to which is then added two grains of potassium chloroplatinite. Those who keep the chloroplatinite in a stock solution of one grain to one drachm of water will of course use two drachms of the solution. Prior to the toning, the free silver must be thoroughly washed out of the silk, and if the platinum bath we recommend is employed, the prints should be passed through a ten per cent. bath of table salt, and without further washing transferred to the toning bath. As the colour does not change much in the final operations, it is an easy matter to check the toning at the correct stage. As the fixing baths suggested are both weak, at least twenty minutes should be given to them. Washing, however, is very speedy, and drying is equally so. If the prints are spread evenly on a sheet of fluffless blotting paper they will be dry in half an hour. A warm, but not hot, flat iron may then be passed over them, the prints being sandwiched between two sheets of clean paper the while. With the smooth, the laid, and the rough papers and the silk, a variety of effects may be obtained that will do justice to any subject.



We give above a couple of photographs of that very expressive sitter the toad, the work of Mr. Lionel Gilman. Those who go in for this or similar photography may be glad to know that a rapid rectilinear of inexpensive kind was used, having a focus of 8½ inches. The toad was a couple of feet away from the plate which was a Warwick Special Rapid. The lens was working at f/16 and the light was a good diffused one. Mr. Gilman says: "I gave about a second or perhaps more, as the exposure in such cases is mostly governed by the restlessness of one's subject. The longer the better within reason, as a small aperture is necessary to obtain any depth of focus at such short range."

ILFORD, LTD. Extraordinary Meeting of the Shareholders.

As we announced last week, the Shareholders in Ilford, Ltd., were called together to consider the advisability of appointing a Committee upon the proposed absorption of the Company in the Eastman Kodak Co. The meeting w asheld at Winchester House at 2 p.m., on Thursday, June 25th, and was largely attended, Major-General G. F. Blake in the chair.

The Chairman said it had been his duty for some years to preside at their meetings, and hitherto he had appeared before them as the spokesman of an united board, and in that capacity he had been able to report to them the steady progress of their enterprise and to recommend to them the declaration of dividends on the ordinary shares, which in the earlier years were at the rate of ten per cent., and for the two last years at the rate of twelve and a half per cent. He had also to record no inconsiderable additions to the reserve funds, and substantial reductions upon the goodwill. Unhappily, they were now no longer an united board, and although he had confident ground for knowing that there was no inconsiderable proportion of the shareholders who were in full accord with the deputy-chairman and himself, yet he fully recognised that there was by no means that unanimity which he had been so anxious to secure when he last addressed them.

He said he was glad to see such a large gathering that day, but he must confess that he had not thought the time had come at which the shareholders could, with advantage, be called together to consider the matter. He had urged that the board, in the first place, should have been provided with the fullest and most accurate information with regard to the company to whom it was proposed to surrender their interests. He had succeeded at the board, by means of his casting vote, in giving instructions that they should obtain all the accounts and the fullest information as to the real merits of the American company, and that then this information should be put before the shareholders, so that they would be in a position to come to a right decision as to what was best for their own interest. But up to the present moment they had not obtained that information.

It might be, he said, that he could make a proposition that would save them the trouble and time of discussing the matter at length at the present stage, but before he made that proposal he would like to ask them, if they did proceed to discuss the subject, to do it with calmness and consideration for each other's opinions. Above all things he would ask them

To indulge in no Recriminations.

For his part he wished to dissociate himself entirely from certain statements which had been made in the press, especially one which insinuated that the proposal had been made and was supported under the influence of bribes. He was more particularly concerned in this matter to protect the interests of the small holders who had put their money into that concern as an investment. It was only necessary, in order to understand the importance of the proposal as affecting these small investors, to notice that the mere announcement of what was intended had resulted in a disastrous fall in the value of the shares.

The first duty of the directors was to protect to the utmost of their power the value of their property, and it was for that reason that he thought it very unwise to call a meeting of the shareholders at that stage of the negotiations. Holding these opinions, he asked Mr. Harman if it would not be far better in the interests of the company that he should withdraw the proposal altogether? He would point out to him that he had had an opportunity of refuting or attempting to refute the statements in his (the Chairman's) circular to which he had taken exception. Having replied to those statements and having produced certain reports and figures furnished by an eminent firm of accountants, he thought that Mr. Harman might very well withdraw his proposal. If they were to go on with the strife he had very little doubt what the result would be when the matter came to be fully considered by the shareholders, but he would again ask Mr. Harman to withdraw his proposal unconditionally and gracefully.

Mr. Harman intimated that he would not do so.

Mr. Knobel said that the Chairman had asked them to avoid recriminations, but at the very commencement of his speech he had made a covert and insidious accusation against Mr. Harman. Then the Chairman had gone on to speak of the position which he had taken in regard to the Kodak Company, and had attributed it to the strain of overwork and to the consequent failing of his judgment and capacity. There was not, of course, the slightest ground for any such insinuation. They all knew that there was **A serious difference of opinion on the Board ;** that was a sad and to some extent a serious matter, but it was of little consequence so far as the business was concerned. The Board had always given to him, as managing director, a moral support in all the proposals he had made, but he must say that whenever they came to a proposal that needed careful consideration they had fallen away entirely. **This proposal of the Kodak Company** was made to him on the 20th December last. He wrote immediately to the Chairman to ask him to come and see him to consider the matter. But, as a matter of fact, the directors had never considered it at all, and had made no investigation into the proposal. Mr. Harman and himself considered the proposal as too important to be dismissed without inquiry; they thought the interests of the shareholders were very largely bound up in the issue of the event. They had, therefore, called that meeting, seeing that they could not submit the matter to a Board that was not united, and they now asked the shareholders to appoint a committee to inquire into it. After all, **It was not a matter for the Board** to decide so much as for the shareholders, and after the committee's inquiry those who had submitted the proposal would be quite content to accept the decision, whatever it might be. But the Chairman suggested that the proposal should be dismissed without any examination at all. The circular of the Chairman and Mr. Cox stated that the trade of the company suffered no harm from the competition of the Kodak Company. Nothing could be further from the truth. The matter had been brought before the Board by himself over and over again, and a special Board meeting had been called to consider the matter. For the Chairman and Mr. Cox to say that the trade had not suffered showed that they knew nothing whatever about the business. This matter of competition was now coming into an acute form, and it was exceedingly undesirable that the present state of affairs on the Board should continue. It was necessary that every effort should be used to get the Board into line again, but in the meantime, as the Board would not inquire into the merits of the proposal, he could not see what possible objection there could be to submitting this proposal to a committee, and accepting their decision on the matter. The Chairman had **Vaunted the power of his proxies.** Well, he believed he had a great number of proxies, but he believed those proxies did not affect the proposal for the appointment of a committee, though they might be against the proposal of the Kodak Company, as put forward by Mr. Harman and himself. It was, therefore, very unreasonable to object to a committee being appointed so as to obtain a fair and just consideration of the question. There were some matters which bore upon the proposal that he thought the shareholders hardly realised. They were told that their trade was in a magnificent condition. So it was, but that magnificent condition was, in a very great measure, due to the staff at Ilford. He had been managing director of the business for eight or nine years, and he knew that there was no effort that the staff could be called upon to make in the interests of the business that would not be responded to, and that the efficiency of the staff was a most valuable asset to the company. On the other hand, **The Board itself knew nothing about the business.** He asked, had they seen even the outside of the factory more than twice during the last five years? Had they ever seen the price-list, or did they know what articles the company manufactured?

He maintained that the opinion of the directors, so far as regarded the actual trade, was not worthy of very serious consideration. What was the present condition of their trade? They had maintained prices the same as everybody else, but they had been giving less discounts. They had maintained their high position by the excellence of the goods which they produced, but the time would come when they would be able no longer to resist yielding to the enormously increased discounts that were given by every other manufacturer in the trade. If they gave the same discounts as the other manufacturers their profits would be £18,000 or £19,000 less. That was a fact that required their very serious consideration. Then, what was going to be the effect of this increased competition from houses abroad and in the colonies? They could maintain their trade perfectly well at home and in the colonies, but it was no use disguising the fact that they could not do it and maintain the same profits to the shareholders as they had been giving in the past; that was a certainty.

Mr. Knobel said that it was necessary for the shareholders to be acquainted with all these details, in order to arrive at a proper decision. He therefore asked for a committee to be appointed, that that committee could cross-examine him on every point connected with the business, and then they

The graveyard outside Fez.

would be in a position to come to a conclusion as to whether the proposal now before them was a sound and wise one, or whether it was a wild scheme of the imagination. He begged them, therefore, to consider carefully whether it was not desirable to appoint this committee.

Mr. C. J. Cox wished to deny in the most emphatic manner some of Mr. Knobel's statements. That gentleman had stated that the Board had given no consideration to the proposal of the Eastman-Kodak Company. On the first occasion that the Board met regarding this business they were told it was a very serious matter, and required consideration. The directors sat for about two hours over the question, but there was no information before them, and they could come to no decision. A fortnight afterwards, or thereabouts, another meeting was called, and they spent a long time discussing the matter, but all they had before them was the prospectus of the company. All at once the managing director put forward a resolution which he had drafted. It was decided, however—for General Waterhouse was then voting with the Chairman and himself—that nothing should be done until they had the audited accounts of the Kodak Company. Three months passed, and the audited accounts came, but the moment he saw them he said they were not satisfactory. He wanted to know why buildings, lease, plant, patents, and goodwill were lumped together at £3,000,000, and urged that if the accounts were satisfactory the goodwill might be given separately. It turned out that of that asset nearly £3,000,000 consisted of goodwill. The Ilford Company had written their goodwill down, and had also raised the reserve fund, but the Kodak Company had done nothing of the kind. It was then decided that the auditors should report on the two accounts, but this was delayed at the instance of Mr. Harman and Mr. Knobel, and the result was that they had not had the report yet. The Board ought to have been able to come before the shareholders with a clear statement as to

The Position of the Purchasing Company.

Was it likely they would wish to dispose of their shares for the paper of a bluffing American company? The proposal was not a commercial one; it was against common sense, and it was against the interest of the shareholders. Under the Kodak Company they would lose all the control of their money. Even if Mr. Harman or Mr. Knobel went over to them it would still be a foreign company, and they would go into it as a speculation, whereas the Ilford Company had hitherto been looked upon as an investment.

Mr. Mark Finch proposed that the question before the shareholders, amalgamation or otherwise, was one worthy of their immediate consideration.

Mr. Hughes said he had been connected with the business as works manager for the last twenty-one years, and he thought he might claim to know something about it. He had been challenged personally by friends in the company as to whether he would advocate the present proposal, unless he was made secure or had an equivalent in some shape or form. In answer to this, he might say that he had a large holding at stake, and he did not want his capital, any more than that of the other shareholders, to be swept away *en bloc.* He challenged any member in the room to say that he had, by word, deed, sign, or cipher, been promised anything in the future if this deal went through. His opinion might be wrong

But at any Rate it was Honest.

The time had arrived when he would favour an amalgamation with the Kodak Company rather than fight them, for the simple reason that two powerful companies in the same line of business could save an enormous lot of money for the benefit of the shareholders by an amalgamation, as compared with when they were fighting each other. He had an open mind on the subject, and desired the appointment of an impartial committee, so that the proposal might be inquired into. Whatever had come before the Board had been simply burked by the casting vote of the Chairman, but this was not a question for the directors to settle—it was one for the shareholders.

Mr. Ashmole seconded the proposition made by Mr. Finch.

Mr. H. T. Brice said that he and some other shareholders, as a self-constituted committee, had been working with a view to a resolution being brought before the present meeting upon which the Board would have been absolutely united, embodying the formation of a committee. Mr. Harman and Mr. Knobel had been prepared to support this, but General Blake could not be induced to do so. He (the speaker) regarded the offer made by the Kodak Company as utterly inadequate. When Mr. Harman called his meeting of the large shareholders, Ilford shares stood at 32s., but the mere mention of the fact that the company was likely to be absorbed by the Eastman Kodak Company knocked off from the value of their shares as much as £100,000.

Then it must be also taken into account that the proposal was to exchange the shares on the basis of $4.85 to the £1, which would show a loss to every shareholder of 7d. per share. If they were going to have any negotiations with the Kodak Company, it must be on the basis of a fair and equitable value being given for the Ilford shares. They were being offered a share in a concern registered in New Jersey, U.S.A.; the meetings would be held on the other side, and the shares would certainly not be dealt in with the facility that Ilford shares were. Mr. Brice concluded by moving: "*That a committee of five shareholders be appointed, not for the purpose of considering the present proposal for the exchange of shares made by the Eastman Kodak Company, of New Jersey, U.S.A., but to consider the existing circumstances of the Ilford Company, and to consider whether any proposal or suggestions that may be submitted to the committee are likely to prove of benefit to the Ilford Company and its shareholders; and that this meeting be adjourned to a future date to receive the report of such committee; and that the committee be authorised to employ such professional assistance as they may deem necessary.*"

Mr. Harman seconded the proposition made by Mr. Brice, and said he hoped shareholders would perfectly understand that his endeavour, and that of those who thought with him, was not to foist anything upon them against their wishes, but simply that they should form a committee among themselves, absolutely independent of the board, to look into the matter, so that the whole of the shareholders might be in possession of the real facts of the case.

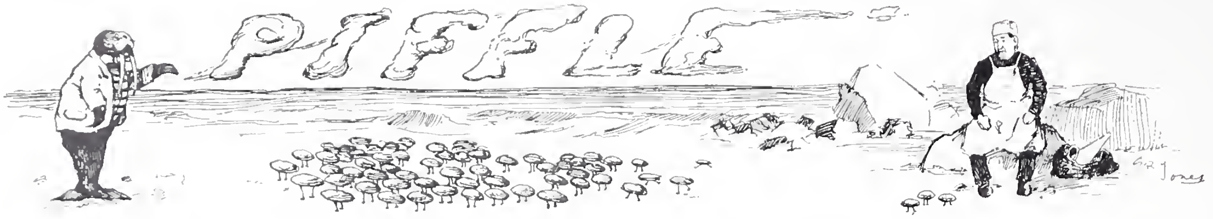
Mr. Brice had spoken very feelingly as a stockbroker, but he, Mr. Harman, had very little sympathy with shareholders who looked upon the matter from a stockbroker's point of view. What he looked at was the welfare of the business, and he cared very little as to whether the shares went up or down. Whatever the proposal might be, he considered it vital that those who had found the capital for this company should say whether it should be accepted or not. It was perfectly true, as the chairman had said, that if the Ilford Company should earn larger dividends, the Ilford shareholders would not benefit by them, because the additional profits would all be swallowed up by the number of subsidiary companies that would make up the bulk of the Kodak Company; but, on the other hand, if the company were less prosperous, all these other companies would bolster them up and give them strength which they would not otherwise possess. If a committee were appointed, there was just the possibility that they might succeed in getting better terms, but if shareholders would not take this step, the thing must drop.

Mr. Helby supported the proposition.

The Chairman intimated that he was prepared to use his proxies in favour of the resolution if he were assured that an impartial committee would be elected. He had the concurrence of Mr. Cox, who had left, in this action.

The resolution, upon being put, was carried unanimously, and the following were elected the committee: Messrs. H. T. Brice, W. Ashmole, G. A. Haslam, Dickson, and Finch.

The meeting then adjourned.



"The time has come, the Walrus said, to talk of many things."

THE *Daily Mail* announces that "by a photographic method a German scientist has shown that a wink lasts two-fifths of a second." That is all very well, but there are winks and winks: the wink portentous may last forty or fifty seconds, while the wink elusive is too rapid for one to feel sure that a wink was wunk at all.

* * *

Perhaps another German scientist will stand up now and tell us how long the consequences of a wink sometimes last. But I am afraid you can't get *them* all on one plate. I have known results of a two-fifth second wink that you couldn't record on a half-mile film. A mere jerk of the eyelid may lead to fisticuffs and handcuffs, and a harmless unpremeditated winklet has been known to lead to matrimonial manacles and monotonous misery.

* * *

Moral: Don't wink.

* * *

Speaking of recording a wink reminds me that I once saw some enlargements from kinematograph records showing a set of lipscapes—being the various positions assumed by a Frenchman's mouth during the enunciation of the honeyed phrase, *Je vous aime*. All I can say is that if I were a Frenchwoman and a Frenchman said to me, "*Je vous aime*," and looked like that when he said it, I should —well, I suppose I should do just what a Frenchwoman does in the circumstances. But after seeing those prints I quite understand why people prefer to say "*Je vous aime*" and all that silly silliness in the dark.

* * *

One of the deadliest and most appalling suggestions I have ever met with as to a new use for photography is that every intelligent inhabitant of a town should have a camera and contribute the results regularly to the local newspaper.

* * *

Such a suggestion is inhuman and diabolical beyond description. It is horrible to contemplate even for a moment. To begin with, every inhabitant, including those in the asylum, would claim that he or she was intelligent; therefore, every inhabitant would have a camera. Picture a town in which everyone was stalking everyone else with a camera from morning till night—yea, and from night till morning also with the addition of a flashlight apparatus.

* * *

Picture further the sick dread with which everyone would open with aspen hands the terrible morning paper. There, there is the ghastly heading, "Our Latest Snapshots." Mrs. Smith popping across the road to the "Bung and Barrel" to see the time, with a jug under her apron. Alderman Tall having his nose wrung by Councillor Short at the town meeting. Archdeacon Stout chasing his best hat down High Street. Miss Grace Wheeler as she appeared when her bicycle skidded. Your trusted cook handing provisions through the area railings to the Town Crier, who is laughing. Mr. Henpeck doing the spring clean. Someone walking in the moonlight with someone. Mrs. de Tomkyns's clothes-line on washing day.

* * *

All of these, mark you, are mild examples of what might be expected. As to the fiend in human guise who suggested the idea, I think he richly deserves the treatment outlined by a mild old gentleman who reproved several men who had been suggesting what ought to be done to a certain notorious murderer. "For my part," said the mild, old gentleman, "I don't believe in cruelty." "I presume," sarcastically remarked one of his hearers, "that you would let him off and give him a comfortable berth under Government?" "Well, not exactly," said the mild gentleman meditatively, "not exactly." "Then what would you do?" "Well, I think I should just lead him quietly to some piece of soft ground, chop off his feet, sharpen up his legstumps like pencils, hammer him into the ground up to his neck, and kick his blank head off. I hate cruelty."

* * *

Whenever I hear of amateur photographers on the Continent being captured by the military in the vicinity of alleged fortifications, and hauled off to durance vile (very vile in most cases) as spies who have arrived from the land of some perfidious enemy to spy out the nakedness of the land, and who under the guise of harmless holiday-making tourists artfully conceal—where am I? Oh, yes. Well, whenever I hear of what I have just mentioned I am reminded of a little incident in my own photographic experiences. Fresh paragraph.

* * *

Wandering around Portsmouth with a hand camera, I took a shot at a place of worship locally known as "The Crinoline." I don't know under what style of architecture it would be classified, but an early Victorian crinoline with a coat of tar would make a pair with it.

* * *

I had walked on for some little distance, when I became aware that I was had in hot pursuit by a red-faced soldier in very undress uniform. The most pronounced parts of his outfit were a pair of amazingly dirty shirt sleeves and an Irish brogue. Waving the former in the air, he pantingly enquired with the latter whether he had not seen me taking a photograph. I pleaded guilty, and explained what my subject had been. He insisted that I had photographed a disappearing gun. I replied that I had no use for a photograph of his adjectival gun, and pointed out that as any passer-by could see the idiotic thing, the secret was not a very valuable one. He suggested examining my camera, whereupon I politely informed him that I would so far oblige him as to wait while he fetched up reinforcements with arms and ammunition, as I should look upon any humbugging with my camera as an unfriendly act not to be submitted to except in face of a force much superior to the one he himself represented. His reply was utterly irrelevant, being to the effect that it was thirsty weather and hot work running about for nothing, the last word being emphasised by a pathetic wink.

* * *

I noticed that he ran all the way back, jingling my coppers in his hand, and disappeared into a bar adjacent to the tarred crinoline to resume the pleasant occupation which he had evidently interrupted when he started on his punitive expedition against myself.

* * *

I don't know how long it took him to discover that the coppers I slipped into his hand had their origin in the sunny land of France.

* * *

Photographers are always glad to come across graceful and poetical subjects, especially if they are of an unusual type. There is an American lady giving dancing lessons in Paris who would have supplied them with a whole boxful. Her method of learning to dance was unique. She went to Nature. As soon as she reached the age of reason it was her custom to go out on the lawn, divest herself of the clothing usually customary in civilised countries, and in that unfettered and untrammelled condition she romped and pranced in imitation of the waving boughs and the dancing calves on the lawn.

* * *

As Marcus Antonius so aptly remarked, "Oh, what a sight was there, my countrymen." If she carried on like that at the age of reason, what must she have done—— But there; at any rate she is now showing *les belles Parisiennes* how to do it.

THE WALRUS.

PHOTOGRAPHY

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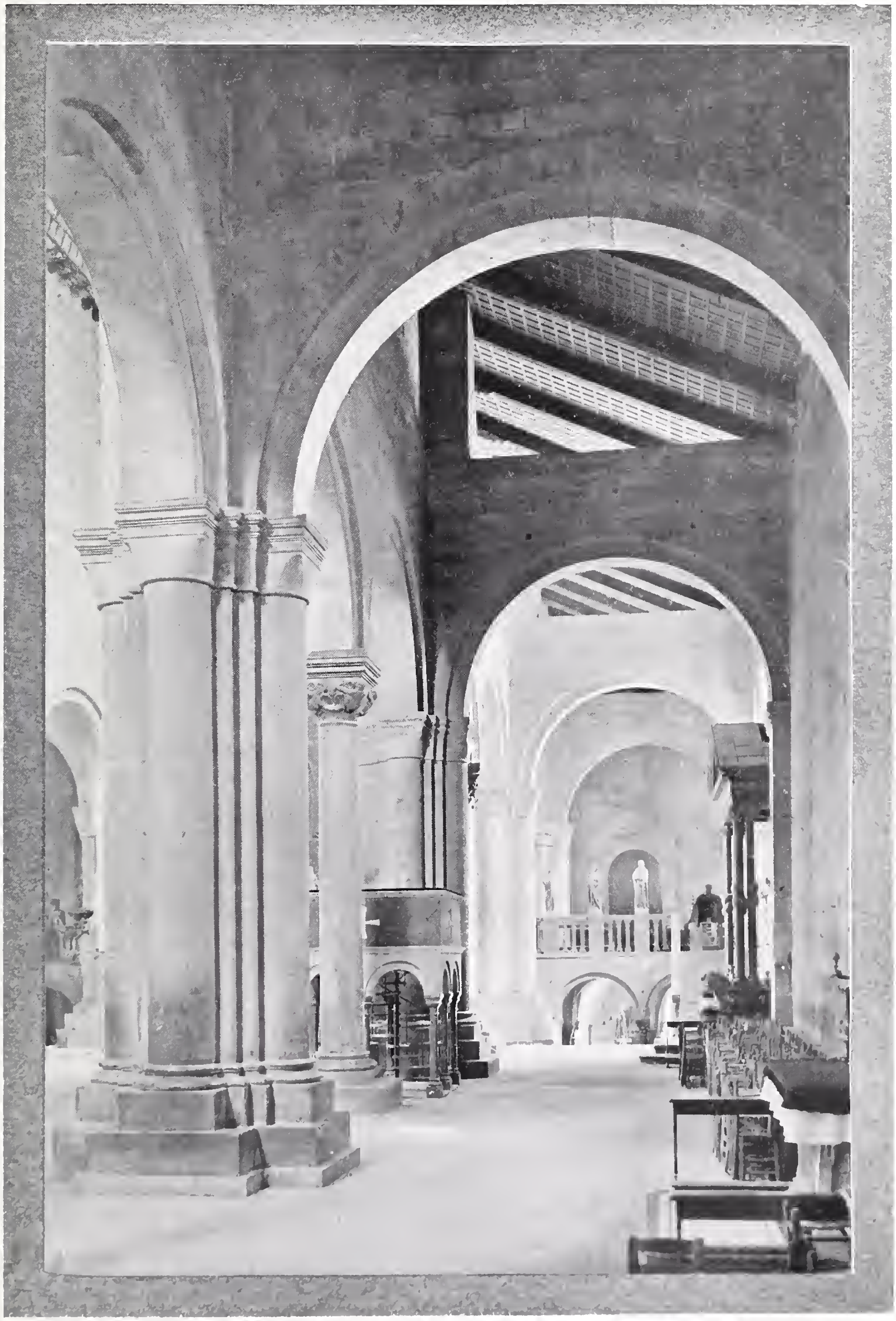


THE SOUTH AISLE. S. ZENO, VERONA. (SEE PAGE 26.) BY ERNEST MARRIAGE.

AN ITALIAN HOLIDAY WITH A CAMERA:

WRITTEN AND ILLUSTRATED BY ERNEST MARRIAGE.

We (my friend and I) are architectural photographers and visited a large, too large, number of Italian towns. The journey included Pisa and Lucca, three or four hill cities between Florence and Rome, a short stay in Bologna, from which centre Parma and Borgo San Donino were visited, and thence to Venice, Verona, and Milan. There are two features of the climate (speaking particularly of May) which are noticeable. Firstly (because it is apparent on the spot), the absence of clouds; secondly (which we find out on our return to England), the absence of wind. At home the wind is a frequent source of trouble if the camera is extended to its utmost, but during an absence of a month there were only two or three days at Pisa when strong wind interfered with our work, and long camera extensions with long exposures were the rule.

The most interesting part of Italian churches (French also) is generally the west front. For example, we may take the case of the front of the Cathedral of Borgo San Donino. All three doorways are carved with figures, and there are sculptures on the wall surface also. To photograph these details, diffused light is essential. Bright sunlight is bad in two ways; the most obvious result is the hard, scratchy type of negative, black dead shadows, and flat high lights with loss of intermediate gradation. When, however, there is a bright reflecting surface, such as a paved court close to the subject, its contrast of light and shade is lessened and the conditions are more favourable. If the subject is still in shadow, but there is strong reflected light from the ground, the shadow on the under surface is reduced in strength, frequently to such an extent that all modelling of the subject is destroyed and good work is out of the question. It is unsafe to rely upon a supply of useful clouds to diffuse the light; the other alternative is to be up early in the morning to put in as much work as is possible upon the west front before the sun shines upon it.

"The girl I left behind me." E. Marriage

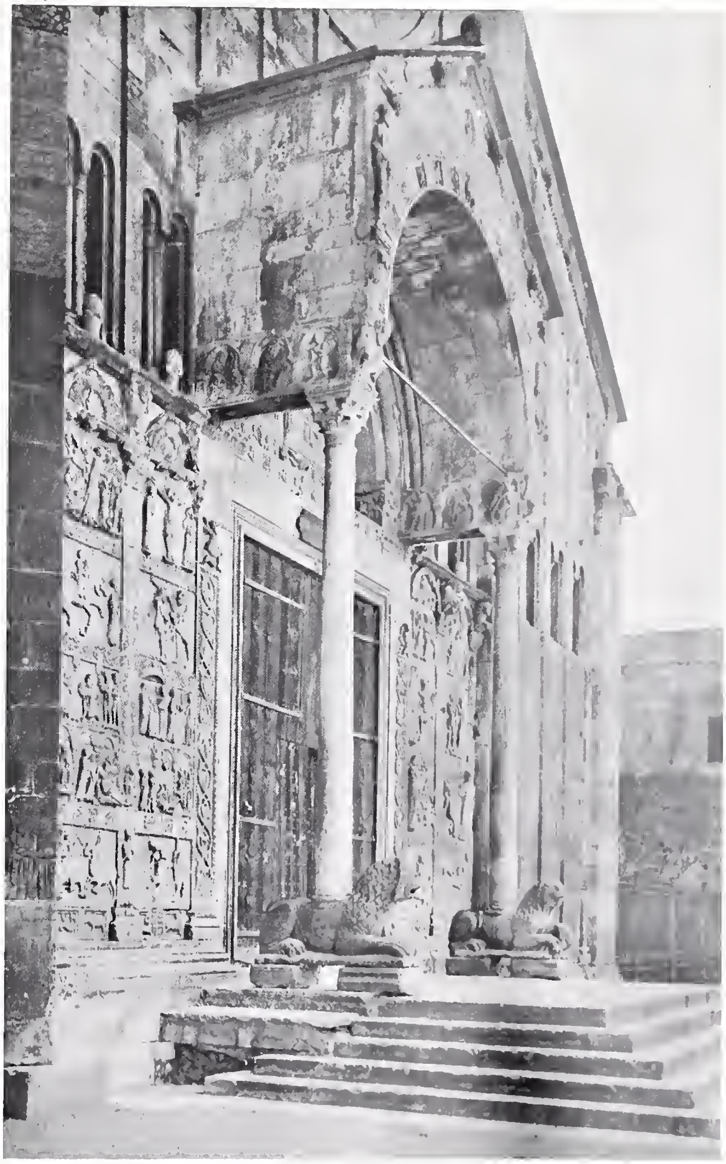
The photographer who is travelling in Italy for the first time may be glad of the caution to look up the train times well beforehand. There are very few trains in the day, they are not speedy, and if morning work is essential, an early start, as a rule, must be made. For example, we wished to have the morning for photography at Parma and Borgo San Donino. This necessitated leaving Bologna by train soon after 5 a.m. In moving from one town to another, unless the whole day is to be set apart for the business, an early start is again advisable. Possibly someone may object that this method of procedure does not, for him, accord with my title. I should say that early rising and active exercise are good for most people, and "if your own conscience does not tell you so, I am afraid I cannot explain it to you" (as a German policeman said to me in answer to the question why it was wrong to photograph the outside of Freiburg Cathedral on Whit-Monday).

The custodians, as a rule, are very obliging, and really desire to assist photographers. Of course, there is the tip to which they look forward and which no photographer should grudge them. Hotels are sometimes a long way from the church. The man who looks after the church will lock up your traps until you return after lunch, or it may be the next day. All that then need be carried to and fro will be the double backs, and your notebook, to change plates in your room at the hotel. The photographer who is working inside an important church will often be asked if he minds having the door locked for a few minutes. Naturally he will assent. Some strangers have been seen in the neighbourhood, and from a custodian's point of view it is desirable that they should apply for the key. It is good for the small boy also who knows at which house the key is kept.

We hear a good deal of the poverty and industry of Italians. Speaking superficially as a photographer with no knowledge of the language, I should say that their industry was a fiction which would account for their poverty, if it exists. The advent of a camera is sufficient excuse for the whole of the visible population to gather round with its hands in its pockets. Whilst some small boys are busy trying to get into the field of view, others will be crowding round the camera kicking (unintentionally, of course) first one and then another leg of the tripod. In the smaller towns the older people will generally keep the young ones in order. The worst town that it has been my luck to visit is Parma. The crowd of ne'er do weels there made ordinary work impossible for me, until finally, to their disgust, I was obliged to take refuge in telephotography and work upon details high up in the cathedral portal. No record was taken of the crowd at Parma, but one illustration is on page 41 from Lucca, whose inhabitants are second only to those of the former city in plaguing photographers. The camera is rather to the right of the centre of the group of interested spectators who are of various ages, from the "small boy" to the old man with white hair. As the intense curiosity and inquisitiveness of Italians have been mentioned, it is only fair to admit their honesty—at any rate with regard to objects for which they have no use. We had two cameras and a quantity of valuables in the shape of lenses, etc., which could be easily pocketed, and opportunities were not lacking. Yet our only loss was an umbrella, and the provocation (pouring rain) very great.

It goes without saying that there are plenty of opportunities of making charming studies of Italian life. For these fast plates and a hand camera are needed, but beware of cutting down exposures. At Assisi whilst I was busy photographing the doorways of the Cathedral (the building in shadow) many were the chances lost. Women were constantly coming to the fountain and carrying away pots of water on their heads; strings of donkeys, too, came down from the mountains laden with fagots and stopped to drink at the trough. But when the camera was ready, focussed, and with shutter set, the women had left and no more came, whilst the rare donkeys hurried past without any desire for water. Pictures might have been made there, but it was not possible to work from two points of view. Had I devoted attention first to the fountain the sun would have come up over the top of the cathedral and stopped my work upon it when only half done.

The quaint, tortuous streets of the older cities are very tempting though far from easy themes for the wandering photographer; the old houses and palaces are generally tall, whilst the streets are narrow, so that there is not much chance for light to penetrate to the ground, yet if a correct idea is to be given figures are essential, and short exposures. Here again direct sunlight is a hindrance, as the contrast in the subject is greatly increased. No doubt a via or vicolo in an old quarter of Spoleto (or similar city) is unhealthy, but it is far more picturesque than that which will certainly follow it. It is stamped with a character and history of its own. The modern streets of large towns, like the dresses of their inhabitants, are of no particular country. There are many hill cities near the Apennines that are not only picturesque in their streets but lovely in their situation—mountains behind and plains with rivers flowing through beneath them. Perugia, Assisi, and Spoleto are especially worth study, and there are other towns visible from the railway that one would gladly visit. Perugia and Assisi will always be associated in my mind with sunsets; the weather was unsettled with a good deal of rain which cleared off about sundown, and the vivid colours of the sky contrasted with the sullen blue of the surrounding hills were tremendously effective. At Assisi, a thread of bright reflection from the river below increased one's power of appreciating space. The canals of Venice, so beautiful and characteristic, are well nigh hopeless. How is it possible either to give or to carry away in a monochrome photograph any idea of the loveliness of her cathedral, Saint Mark's? I was there five years ago and made two photographs of one set of mosaics in the orthodox way with a screen and colour sensitive plates, but on seeing the originals their beauty came again as a surprise. Instead of serving to remind me of these mosaics as a whole, the photographs, though carefully taken, had destroyed all recollection of colour; I only remembered the form.



West Porch, San Zeno, Verona.

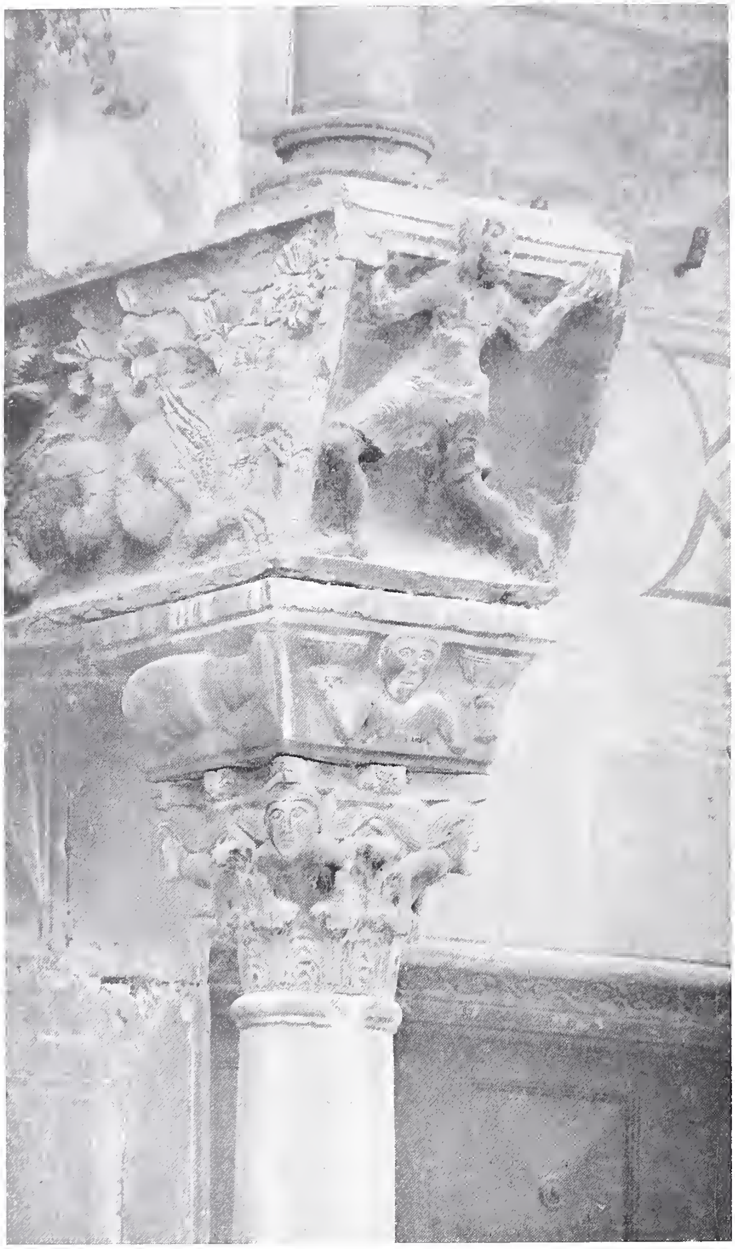
Verona is worth more time than is generally devoted to it. The tourist spends a night there, scrambles round in a cab to a few of the churches during the forenoon, and then leaves for Venice or Ala as the case may be. There is much interesting work to be done about the cathedral, but San Zeno should on no account be missed. Its west porch is very richly carved, and the interior of the church with its fine raised choir is a picturesque and fine example of Italian Romanesque.

We broke our journey to Milan at Bergamo. The old town, built upon a steep hill, as so many old towns are, is made up of narrow streets with now and again views of hills between the tall houses. The photographer will find much that is picturesque about the market place with the Palace Vecchio. The building is open on the ground floor, and its massive columns and vaulted roof stand out finely against the light in the market square, or the cathedral, according to the view chosen. If figures are wanted, there is no scarcity of the genus boy about; the trouble is to overcome the great contrast in the subject without giving your figure a chance of movement. The cathedral has two Romanesque porches. In both, the columns bearing the roof are supported on the backs of lions. The lions in the north porch are made of the most brilliant orange marble that I have seen.

The most interesting and picturesque church in Milan is that dedicated to St. Ambrose with its fine atrium or forecourt. Unfortunately, the columns inside the church itself were decorated with scarlet cloth during the whole of our visit, so that it was useless to try to get any view of the interior. The same difficulty (except that the cloth was a livid purple) met us at the church of S. Eustorgio.

Pavia is easily reached from Milan, and should certainly be visited for the sake of the church of St. Michael. The wealth of carving upon its west front is great, for the sculptors have not been content with elaborately carving the three doorways, but have run bands of figures across the whole front. The north and south doors are also covered with ornament. The light inside the church is not good, so that it is not easy to take photographs of the capitals of the massive columns there, but most, if not all, are quaintly carved. Those in the triforium can be secured with the aid of magnesium.

Few, if any, Italian hotels boast of a dark room, but the bedroom windows are fitted with shutters, as a rule, so that at night it may be made dark enough to change plates therein with safety. Once or twice a window over the top of the door looking on to the passage interfered with our work, but it was pretty easy to cover the offender with our focussing cloths. On a trip it is always best to have sufficient plates in double backs or changing boxes for one day's work, then all changing can be effected at night; it is well also to accustom one's self to do this in the dark without the aid of a red light.



Capital on the south porch. Verona Cathedral.

The New (Collodio-chloride) Self-toning Postcards of the Paget Co.

Photographic postcards have taken the public fancy, and self-toning paper is making its way with rapid strides. A combination of the two must needs appeal to those who desire to print from their negatives in the simplest possible manner. A sample printed card, accompanying the packet sent us for testing, bears such a very charming subject that one regrets the rough usage it must inevitably meet in going through the post. The colour is as nearly as possible a true sepia, and is obtained by a solution of hypo alone.

The manipulation is indeed so simple that there is no possibility of a mistake being made. The image is to be printed a little deeper than the finished picture should be, practically the same as when printing on ordinary P.O.P. The cards are then washed in several changes of water for five minutes and are placed in a fixing bath made by dissolving two ounces of hypo in a pint of water, to which is added a pinch of sodium bicarbonate to ensure the bath being slightly alkaline. Fixation should be continued for about a quarter of an hour, and the usual thorough washing should follow. If a colder tone—a purple brown—is required, then instead of washing previous to fixation the prints should be immersed for ten minutes in a solution made by dissolving two ounces of table salt in a pint of water. They are then rinsed and fixed in the bath given above.

The final tones cannot well be estimated while the prints are wet, as they alter considerably in drying. As, however, the emulsion is a collodio-chloride one, drying may be speedily accomplished in front of the fire without fear of the image running, as would be the case with gelatino-chloride prints. One print may be toned in each of the two baths, dried, and the method which gives the results liked best selected for the remainder of the batch. The cards are packed twelve in a packet selling at one shilling.

QUESTIONS and REPLIES.

Readers wishing for information upon any specific point in connection with photographic theory or practice are invited to make use of the "query form," which will be found amongst the advertisements. All enquiries must comply with the conditions stated upon the query form; those which do not do so are neither acknowledged nor answered. All enquiries are answered by post. We cannot undertake to make replies in the paper. We print below from time to time a selection from the queries we receive, and our replies.

STAMP PHOTOGRAPHS.

Will you kindly instruct me how to make stamp photographs with only one lens and an ordinary half-plate camera?

Using a half-plate camera and one lens only, the making of a large number of postage stamp photographs will be rather a troublesome operation. The simplest way will be to make as many prints as the number of stamp photographs wanted on a half-plate negative, say thirty, and to arrange them on a large sheet of paper or cardboard, and then to photograph them to the required size. Having then a negative with thirty prints upon it a very large number of prints can be struck off in a short time. There is on the market a small camera fitted with six small lenses sold at a very moderate price. In front of this a cabinet or C.D.V. print is placed and the exposure made, giving six small photographs on a quarter-plate. A mask supplied with the camera gives the appearance of perforations round the prints.

COPYING LINE SUBJECTS ON GREEN PAPER.

I want to copy some drawings printed on green paper. I have tried several times, but cannot get the blank spaces white, as you will see by the enclosed example.

In copying such a subject there are many difficulties in the way. The poor quality of the paper and the rapid printing tend to give broken and grey lines; the paper being green is a very serious bar, and the dry plate is far from suitable for the purpose. Copies of line subjects can only be made to perfection by the wet collodion process. The best form of dry plate for line work in general is a photo-mechanical plate. Taking into consideration the colour of the paper, a slow orthochromatic plate sensitive to green would probably give better results in this particular instance, but a green colour filter should also be used, otherwise the amount of white light reflected by the black ink will seriously interfere with the contrasts in the negative. The exposure should be timed very accurately, and what the correct exposure is can only be found by experiment. A developer containing four grains of glycin, twelve grains of sodium sulphite, and twenty grains of potassium carbonate, to the ounce of water will give good results. It should be noted that the glycin will not dissolve until the carbonate is added. Development should be stopped the moment the lines show the first signs of veiling over. As this stage is difficult to detect in the dark room, it is well to pin a piece of black paper at the edge of the engraving, where it will appear on the negative. With such a patch it will be much easier to note the exact stage at which development should cease. After fixation, no doubt the negative will be very thin, and must be brought up to printing density by intensification. A good intensifier is: Potassium ferricyanide, 6 parts; lead nitrate, 4 parts; glacial acetic acid, 10 parts; distilled water, 100 parts. Bleach the negative in this; rinse and flood with nitric acid, 1 part; water, 7 parts. Wash well and pour over it a solution of ammonium sulphide, in which it will turn black, and if development has been properly conducted the lines will be quite clear. Should the negative not be sufficiently strong, the intensification process can be repeated, and as good prints as the subject will yield will be obtained.

PRINTING A FIGURE INTO A GROUP.

I have lately photographed a large group, but one of the persons who should have been in it was unable to attend. Can you tell me how I can insert his photograph from another negative?

The simplest method of inserting the missing portrait is to make a print of him and of the group both on smooth surface paper and to cut out the single portrait in such a way that it will fit neatly between the other figures. It of course must be photographed to the correct scale. With a sharp knife or razor the paper at the back must be pared away quite thin round the edges of the cut out portrait. When pasted into position the junction line will be practically invisible. The composite group must then be copied in the camera, and from the negative so made any number of prints can be obtained.

COPYING FADED PHOTOGRAPHS.

I have got fairly good results when copying ordinary photographs, but can only make flat negatives from faded prints. Do you recommend a special plate or developer, a large or small stop? I want to know how to get plenty of contrast.

A slow plate and an intense light tend to give contrast, and it is desirable to use the largest stop that will give definition over the plate. Any developer will give ample density, but the following, though somewhat slow, is easy to use: Glycin, 4 grains; sodium sulphite, 12 grains; potassium carbonate, 20 grains; water, 1 ounce. If the image has faded to a yellowish tint but the paper remains pure white, then copying through a violet or blue screen may increase the contrast. A lantern plate from which the silver has been fixed out will, if the gelatine is stained with blue or violet aniline dye, make an efficient colour filter. It may be placed either in front of or behind the lens. We attach much more importance to correct exposure and correct development. If density cannot easily be obtained, it will be because the exposure has been too short. Contrast will result from correct exposure followed by full development, and may be still further strengthened by intensification. For this purpose Monckhoven's intensifier will be found the best. The negative should be bleached in: Mercuric chloride, 100 grains; potassium bromide, 100 grains; water, 10 ounces; and after thorough washing, blackened in a solution made by dissolving 100 grains of silver nitrate in ten ounces of water, to which is added slowly and with constant stirring a solution made by dissolving 100 grains of potassium cyanide in one ounce of water. On adding the cyanide to the silver solution a heavy precipitate is deposited. As the addition of the cyanide continues the precipitate gradually dissolves, and when solution is complete no more cyanide must be added. When plunged in the silver cyanide solution the negative will rapidly blacken over the surface. As soon as the action penetrates right through the film the negative must at once be washed, or the density will be reduced.

SPOTTING OUT PINHOLES.

Please tell me the best method for spotting pinholes in negatives and the best way of applying it?

The colour of the medium should match the negative; carmine, ultramarine, and sepia or Indian ink may be mixed in varying proportions as required. A very fine pointed sable brush is suitable for applying the colour. The brush should be nearly dry, and the colour laid on in minute dots with the extreme point. If the pinhole is at all large no attempt should be made to cover it with a wash but with dots of pigment laid side by side. The aim should be to match the surrounding negative so exactly that no spotting will be required in the print. This requires considerable practice, and the necessary skill will not be acquired at once. It is still more important that the colour should not overlap the edges of the hole or the white spots on the print will be much more noticeable than the black specks from the untouched pinhole. White on dark always shows up much stronger than dark on white. Some workers prefer a very fine pointed pen, such as is used for mapping purposes, to the brush, and it is, we believe, more easily used by an inexperienced worker.

REMOVAL AND PREVENTION OF SILVER STAINS.

Can you tell me how to remove silver stains from a negative? They were caused by laying a piece of P.O.P. on the film while damp. Also can you give the name of a good varnish for carbon prints on opal that would allow of them being wiped with a wet sponge when they become soiled?

It is almost impossible to remove silver stains entirely without injury to the negative. Many remedies have been suggested, but none of them have proved quite successful. One of the best is to soak the stained negative for an hour or two in a strong combined toning and fixing bath. In a longer or shorter time the red stains will change to a bluish colour—they will have been toned in fact—and will no longer obstruct the light to the same extent. The best varnish for the carbon opals is celluloid varnish, sometimes called zylonite varnish. A thin coating will make the print sufficiently waterproof to stand gentle sponging without interfering with the matt surface. If the same varnish is applied to negatives, silver staining will lose half its terrors, for if the silver does set off it can be removed with comparative ease.

DEPTH OF FOCUS WITH VARIOUS LENSES.

I used a 3¼in. by 2¼in. roll film camera for some years and found objects near by and at a distance all in focus. Recently I got a quarter-plate camera which is fitted with a focussing scale, varying speeds, and stops. All these contrivances tend to confusion and the spoiling of negatives for ordinary snap shotting. Will you therefore kindly tell me if I can set this camera to a standard speed stop, and focus, so as to be able to snap with it and get the same results as with my old fixed focus camera?

The small camera has a lens of short focus, probably about four inches or less, and that would account for things at all distances being reasonably sharp. With a quarter-plate camera a lens of longer focus is necessary. With a five or six inch lens only those objects that are in or about the same plane will be equally sharp, and the longer the focus of the lens the worse will this become. Hence the need for the focussing scale, varying speeds to the shutter, and different sizes of stops. These adjuncts are not given to confuse the worker nor to spoil the negative, but are to enable the careful photographer to turn out better work than would be possible without them. A large stop enables a short exposure to be given, but only those objects on which the camera is focussed will be really sharp. A small stop will bring near and distant objects into focus, but the exposure must be much longer. If, however, the pointer on the focussing scale is set to thirty-one feet when a five and a half inch lens is working at f/8 everything at and beyond that distance will be in reasonably good focus. For very brightly lit objects the shutter may be set at one twenty-fifth of a second, but except in the very brightest of light, it would be better to use the shutter at a lower speed, say one-tenth or one-fifth of a second, if the camera can be held still so long.

SWING BACK V. RISING AND SWING FRONT.

Which do you recommend in a camera, a swing back or a rising front? Will the latter really do all that the former will?

Coupled with a sufficient amount of rise and fall in the lensboard, the swing front is the more generally useful, particularly as there is always a difficulty in getting sufficient swing with the back. When the swing back is used the camera must be tilted up to include the tops of tall buildings, after which the back must be set vertical. Then, and not till then, it may be found that the inclination given to the camera is insufficient, and both operations must be gone through again. With the rising and swing front the camera is levelled with the back in a perpendicular position once for all. The front is raised till either the desired end is attained or the limits of the covering power of the lens are reached. In the latter case, by swinging the lens to point upwards, the axis is directed to the centre of the plate, which is then once again covered. With modern lenses, which possess a great covering power for their focal length and give a flat field, it is not necessary, except for very difficult subjects, to swing the front at all, with the corresponding advantage that there is no need to stop down to a small aperture, as must be done when the field of the lens is set at an angle to the plate. In all cases the fixed back and movable lensboard effect a considerable economy in time, and will enable exceptionally difficult work to be accomplished that would be quite impossible under reversed conditions.

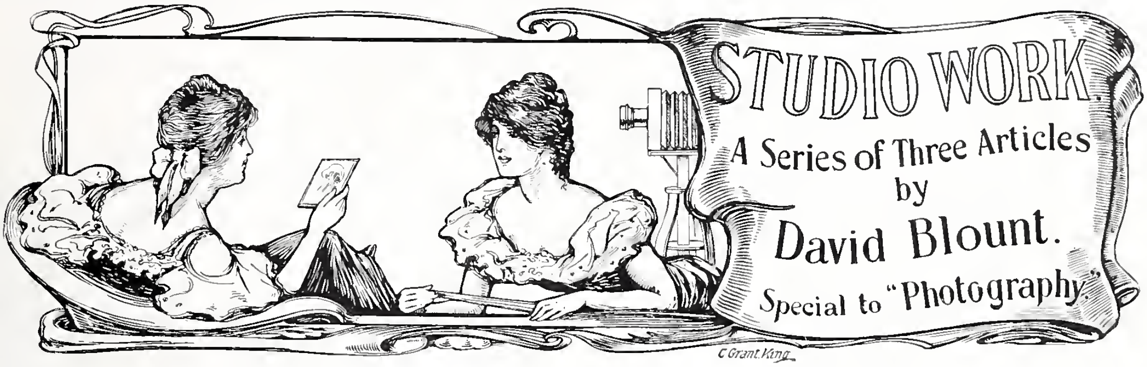
COLOUR FILTERS AND ORDINARY PLATES.

I shall be much obliged for information as to the advantages of using colour filters with ordinary plates, and the additional exposures required?

The effect of the colour screen varies with the brand of plate used. All plates, even those known as ordinary, are sensitive to red and yellow light. This may be proved by exposing a plate close to the dark room lamp for a few minutes. On developing it, it will probably be found to be badly fogged. The relative sensitiveness to blue and yellow varies greatly with different brands, and it is only by experiment that one can tell what increase of exposure is necessary with any particular plate and filter. An experiment that will prove useful is to photograph (with and without the filter that is to be tested) a colour chart such as is issued by manufacturers of artist's colours. The exposure should be so regulated that if both plates are developed together the white part of the chart should be of equal density in the two negatives. When this is accomplished, the extra exposure required with the colour filter is known, and the difference in the densities of the colour patches will give information as to the effectiveness of the filter with that particular plate. **Frankly, we have very little faith in the advantages sometimes attached to the use of ordinary plates with colour filters. We prefer to use colour sensitive plates.**

NOTICE TO ENQUIRERS.

Answered by post: G. H Harvey, Frank Toller, R. H. Thomas, A. Fawley, S. H Palmer, W. S. Castle-Turner, W. Ranson, E. Bennett, R. Porter, L. Lluellyn, T. W. Ireland, C. C. Douglas, J. Owen Price, J. Moulton, W. B., C. Bedford, A. C., Miss Fyers, Miss C. Power, Jack, W. M. Gordon, Effie, H. Jenkins, R. J. Morton, T. Holmes-Green, H. D. French, P. Blatchworth, Arthur, Camera, L., W. Hopkins, J. V. Bowles, A. Briscoll, W. J. Simpson, Lux, H. Norreys, H. Rhodes, A. E. Peirce, A. T. Witson, Disgusted, H. W. A. Berrill, B. E., Orthochromatic, P. H. Powell, J. Preston, A. Y., E. R. Macintosh, Farningham, J. C. K., W. E. Coxhead, E. Tann, F. Warland Andrew, W. Newell, Adon, W. B., Alpine, H. S. Targett, H. Moore, T. Carlyle, E. G., J. S., Constant Reader, G. N. F., H. Thompson, Hypo-Alum, G. H. F. Lee, Three Colour, W. J., H. T. Smith, A. R. L. C., Tourist, E. Bennett, E. Mackie, H. Stansfield, W. F., Walter Grover, Light Fog, S. C. R., Lieut. Col. Key Lees, Hon. Mrs. Hamersley, J. Yates, E. Smart, X Y. Z., T. H., Holidaymaker, H. W. H., Student, F. Norton, Clerk, H. W. P., W. Lockheart, Newcastle-on-Tyne, R. L. J., A. A. Durando, J. Leech, Mounter, Kate, Professional, J. M., Doubtful, T. Prowse, Nottingham, Miss Unthank, L. Bechstein, Tissue.



STUDIO WORK.

A Series of Three Articles by David Blount.

Special to "Photography."

I.

THERE are professional photographers who have the public reputation of being arrant flatterers; there are painters who, it would appear, only paint those who are beautiful, but I presume that this idealising and yet retaining the likeness will be difficult for the newly initiated into photography. An amalgamation of brains, art, and the camera's correct drawing ought to be the qualities on which picture makers by photography should raise their craft and make it all round better than it is to-day.

Portrait of a lady. *By David Blount.*

The photographer must be content to work in monochrome, unfortunately—or fortunately, perhaps—and cannot command the illusion of colour of the painter, but he can give correct drawing and tone. And he can give colour suggestion, for monochrome can suggest colour. Mutilation of the face and figure as carried out by many professional photographers must only serve to bring the camera craft into disrepute; up to the present the amateur seems not to have learnt this fault.

I want more especially to refer in these articles to the kind of work that will interest the maker of pictures by photography who has aspirations towards portrait, figure-study work, or studio work of that order.

Of course, it is not everyone who has the means to have a studio of his own. I shall have little to say, too, in these notes that will be of interest to those who have not—since little real sound work can be done in backyard studies; in fact, in any in which one can have no proper control of light and shade. I know that the backyard and garden have many enthusiastic devotees, but I am not one of these, nor do I believe that good work can be done under such circumstances. A great deal of wind blowing the draperies of the sitter, her nose in such a glow that orthochromatic plates are absolutely necessary, the tripod legs slipping all over the place, the light altogether uncontrollable—these and other drawbacks do not seem to me to be conducive to good portraiture. I am not going to assert that there never has been fair portraiture produced in the backyard, but such exceptions only prove the rule.

A camera is wanted that is rigid, with none of its outside elements to bother us, and although we are told that we can get sixpennyworth of this or that, and tack it up here or there to soften the light or something of that kind, I don't believe it. It is of little or no use.

My opinion is, that if the photographer cannot have a glasshouse to work in, he had better leave portraiture severely alone. Now I do not doubt that the average snapshotter has as little interest in studio work as in a para graph about a big gooseberry; and I am not writing for him, but to interest the serious photographer with artistic claims. Whilst there are many who have not a suitable glasshouse which they can use for portraiture, there are many who could have some portion of their residence made into such. Sometimes an attic, with large squares of glass inserted, would do well for any portrait if the lighting is judiciously arranged.

Personally I think there is a lot of nonsense talked by cranks as to the respective merits or demerits of certain shaped studios—single slant or otherwise. One has eyes, and can see where the lighting is wrong, and the other has not. Given an operator who understands the lighting or arrangement of light on the model, what can it matter what shape the studio is, provided he has plenty of glass, enabling him to stop out the light or admit it, as the case requires?

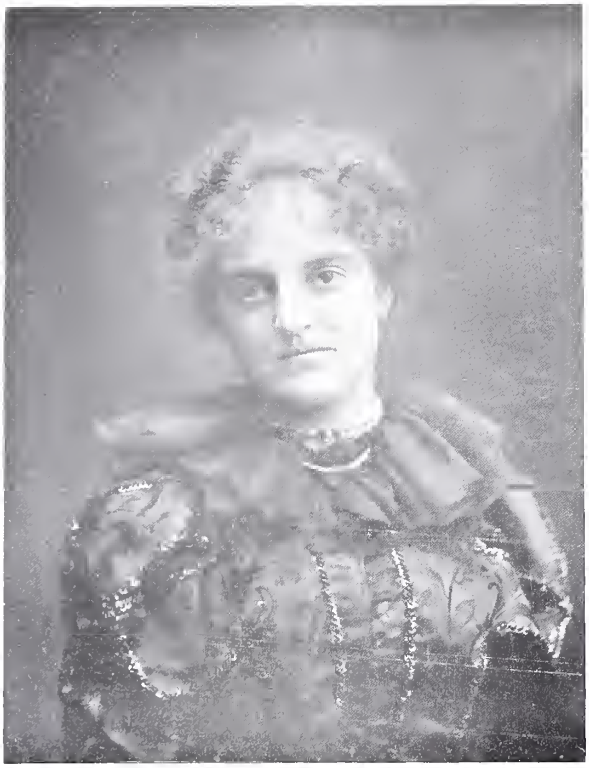


Fig. 1.—Top lighting only. No side light.

Studios, doubtless, throughout the world, differ greatly in design and build; but in the hands of an intelligent worker the same results can be procured always, provided there is plenty of glass. The shape, in my opinion, goes for nothing.

This last assertion, doubtless, will offend the orthodox one, who knows only one shape of studio, and that to him the correct one; but surely it is time that this stupid fallacy was exploded. The light comes through a certain amount of glass, and if he cannot manage it so as to play upon his model as to secure the proper lighting, and if he cannot get the whole picture in tone by the devices provided, that is probably his inability, not the fault of the studio. I should perhaps have qualified the foregoing remarks by saying what it should be scarcely necessary for me to say, that I am presuming the studio always to be lighted from the north.

The novice in studio work may be wondering why the studio should be lighted from the north. It is well to be elementary in a note of this kind, considering the numerous classes of readers it may have. To be plain, and not to puzzle the reader with high-flown words, it is only necessary to say that studios built with their lighting from the north get the smallest amount of direct sun throughout the whole year. In portraiture, direct sunlight can only have disastrous results.

I am not going to suggest the shape of the studio in any

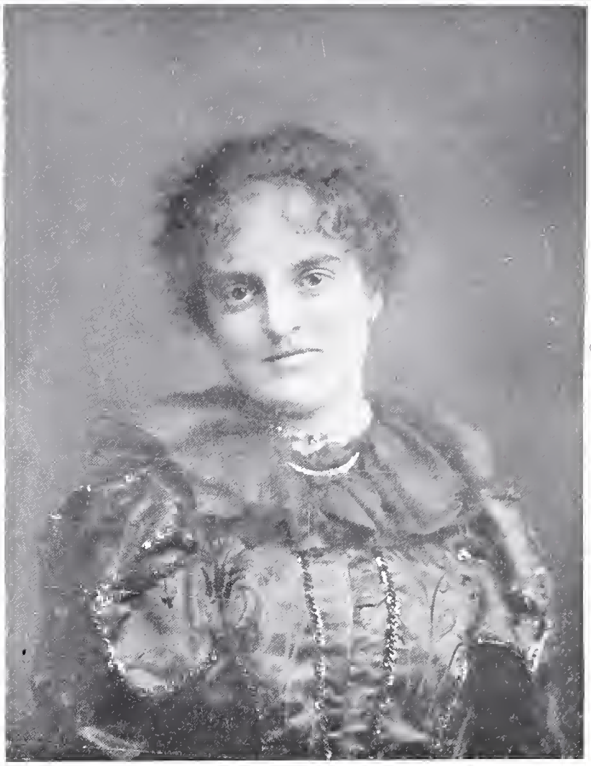


Fig. 2.—Front and side lighting

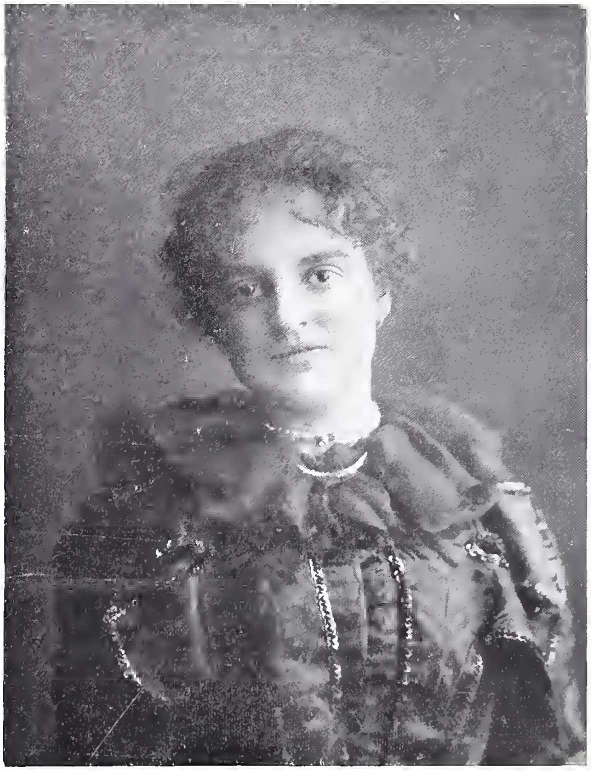


Fig 3.—Side lighting only.

way. That I leave to the reader's common sense (and there is plenty of it about). He must find out his little studio himself, and put the blinds in himself, so as to get the effect he himself desires.

Before finally fixing these, a good plan is to get a plaster cast, preferably a head, and to paint it over with, say, a grey distemper colour, so as to lower the tone to about that of the human face. This will photograph somewhat harder (with more contrast) than the sitter, but still it is good practice in lighting. It may be moved and turned about in the studio, and the various effects of the lighting upon it observed. It will have the distinct advantage over the ordinary model that it won't get tired.

Before leaving this part of the subject I would say a few words with reference to some of the illustrations. Nos. 1, 2, and 3 are given as fair examples of what can be done in the ordinary way in lighting the face. The reader will notice that No. 1 is lighted from the top of the studio only, no side light having been used. No. 2 has no top light whatever, and depends for its illumination upon light from the side and front of the model, whilst No. 3 is lighted exclusively from the side. It is scarcely necessary to point out that of the three, the last in this case is undoubtedly the most pleasing, having neither the harshness of No. 1 nor the abruptness of light and shade of No. 2.

These examples of lighting were taken directly after each other, and the sitter's position in the studio was not moved between them. The blinds alone were altered to get the various effects required. They are not, of course, put forward as having any any claim upon the reader's attention as pictures. As such they cannot be considered; but should rather be regarded as elementary exercises in portraiture.

A SQUIRREL (see page 44). BY DOUGLAS ENGLISH.

Looking Both Ways

Amongst the features of last weeks issue of "Photography" were

An exhaustive and fully-illustrated article on "Pinhole Photography," by Mr. J. Combe.

An illustrated account of the sacred city of Fez, by Mr. J. H. Avery, being the second part of his series entitled "A Photographer in Sunset Land."

"Notes for Photographers at the Gordon-Bennett Race." Illustrated.

A report of the extraordinary meeting of shareholders in Ilford, Ltd.

Next week amongst other matters we hope to deal with

A fully-illustrated article, by Mr. Frederick H. Evans, upon Wells Cathedral, with special reference to the stairs leading to the Chapter House.

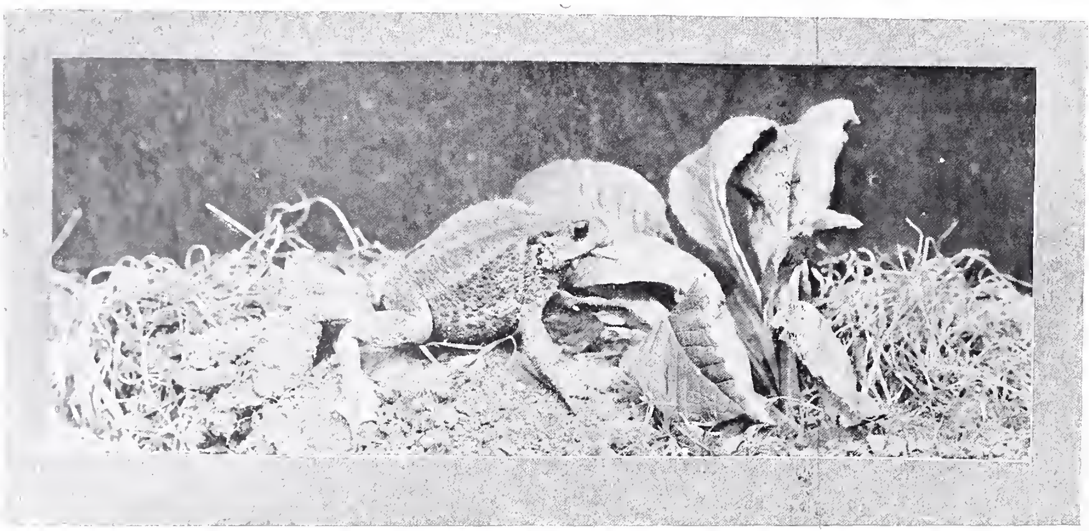
The second of Mr. David Blount's series upon "Studio Work."

"A Moorish House," with photographs, being the third of Mr. J. H. Avery's series on "A Photographer in Sunset Land."

"Studio Notes and Jottings," by "Professional."

Photographic Communications to the Congress of Applied Chemistry.

THE fifth international congress of applied chemistry was held in Berlin from the third till the eighth day of June last. The photographic section was one of considerable importance, and drew to the congress several men of well-known name and great reputation. Various papers were read, among them being Lumière's on the destruction of dichroic fog, Namias on the reactions in toning images with lead salts and on increasing the stability of bichromated substances by means of certain alkaline salts or organic acids. Dr. Konig lectured on ethyl red and orthochrom-T, and in the discussion which followed it was remarked that plates sensitised with either were rather liable to fog.



Dr. Eder's paper next day was on sensitometry, and Dr. Schaum, of Marburg, discoursed on the latent image. On the third day Dr. Precht lectured on the spectrum of radium, and later on solarisation and restrained development with acetone sulphite. In the afternoon Dr. Neuhass described his methods of direct colour photography, which have already been described in *Photography*. On the fourth day Dr. Leo Baekeland read several papers on chemical subjects, among them being one entitled "The Development of the Photochemical Industry in America." Later on Dr. Eichengrün, of the Bayer Co., discussed the production of brown tones on silver chloride papers. The following day Baekeland read certain photochemical papers—one on the electrolytic action of metallic particles in sensitised papers.

British photography, we are sorry to note, was not represented at the congress at all. It is a great pity that in this as in other technical matters Great Britain seems to be determined to let her place, once the foremost of all, be taken by her competitors—German, American, and French. The congress was in every way a great success, and the papers were more important in several cases than our brief summary this week might lead one to suppose.

A New Extra Rapid Plate. The Paget "Swift."

Some time back we had occasion to note the effect of healthy competition among the manufacturers in providing plates of phenomenal rapidity, and predicted that such results would not long remain unrivalled. Our expectations have been quickly realised, for the Paget Prize Plate Company, of Watford, have entered the lists with a plate that in speed and the attributes which must for successful work accompany it is second to none. It is, in fact, only by competition properly carried out that improvements in the apparatus and material we use are likely to be accomplished. Within the last decade the speed of the dry plate has been quadrupled, to put it in a moderate form, and with the resources our manufacturers have gathered together, and the energy they habitually show, there is no reason why the future should not be as rich in surprises as has been the past.

The Swift plate is essentially a hand camera plate, its speed is described as being twice that of the fastest plate previously made by the same firm. This estimate is fully borne out in practice; those who are accustomed to use the Chapman-Jones plate tester will gain an idea of the sensitiveness when we say that with thirty seconds exposure square 22 gathers printing density in development. From the same record we find that the yellow and red squares are distinctly impressed, the density of the yellow being equal to square 17, and that of the red to about square 19, a distinct advantage when colour subjects have to be dealt with. In a general way density is easily obtained, and there is a well-marked range of gradation of about twelve squares. When all is said and done, the average photographer puts more faith in results obtained upon everyday subjects than upon laboratory tests. Exposed on such subjects the opinion we had formed of the quality of the plate was amply confirmed.

Photographers to a greater extent than perhaps any other class of workers have an abiding faith in formulæ, and attach to certain developers, or mixtures of developers, a value in getting results which is really due to correct exposure and to suitable density in the negative. This craving for formulæ is not pandered to by the Paget Company, who simply and wisely state that excellent results can be obtained by any well-compounded developer, and refer the enquirer for such developers to their handbook No. 1—"Paget Prize Plates and How to Use Them." In this we find most of the developers dealt with, and those who have not a pet compound of their own may readily find one there. Accompanying each box of plates is a set of exposure tables calculated for use with the XXXXX plates. The exposures, of course, must be halved for the "Swift." The Paget Company suggest that these plates should be reserved for subjects requiring exceptional speed, the older and slower plate being used for more ordinary work. The advice is good, for unless the dark room lamp is of exceptional quality light fog may be easily produced. Time development carried out in as nearly absolute darkness as possible is the safest rule. The price of the plates in quarter-plate size is 1s. 6d.

PATENT NEWS

The following specification of patents relating to photography have been published, and copies may be purchased at an uniform price of 8d., at the Patent Office Sale Branch, 25, Southampton Buildings, London, W.C. The price of the specifications includes postage to any part of the United Kingdom. The additional postage to foreign countries is usually ½d. per specification. Postage stamps must not be sent on payment of any amount exceeding 11d. In ordering, the name of the patentee and both the number and year of the patent must be given.

1902.

13,468.—Davidson. Reflecting lens attachment.
13,605.—Warnecke and Heath. Cameras and roll holders.
14,803.—Krügener. Cameras.
16,591.—Duncan and Gowenlock. Plate changing apparatus.
18,715.—Bentzin. Shutters.

1903.

4,962.—Fritzsche. Roll films for three-colour photography.
5,377.—Jackson. Hand cameras.
6,641.—Mayering. Liquid lenses.
6,930.—Hickman. Printing apparatus.
8,642.—Wilkinson. Print trimmers.
8,904.—Jarez. Printing apparatus.
9,013.—Rochester Optical and Camera Co. Film carriers.
10,240.—Willsie. Light screens.
10,726.—Guimaraes. Cameras.

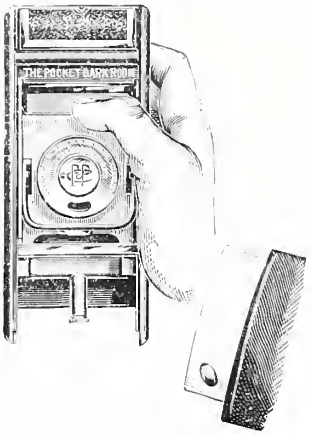
A True Pocket Dark Room.

A dark room in such a small space that it can be carried in the pocket has been devised by the Pocket Photography Co., Ltd., of 56, Gracechurch Street, E.C. We have had every opportunity of testing this most ingenious apparatus, and can only say that it is as simple and as efficient as could well be imagined. It is no makeshift, but practical throughout.

In appearance it resembles a folding pocket camera both in size and outward finish. The spool of film is inserted in one end, and the black paper is drawn through a slot till the end of the film appears. This is led through a second slot, and is guided over a sheet of ruby glass, which forms the back of the apparatus. A bottomless box edged with indiarubber fits over the film, and makes a watertight joint. Into this chamber first water and then the developer is poured through a curved tube by means of an indiarubber bulb, which holds exactly one ounce, and each in turn is drawn off through another pipe. The negative being developed and washed, the covering chamber is removed, and the section cut off and placed in the hypo bath, when the next section is treated in a similar manner.

It is intended, for the convenience of those who dislike having to wait for one section to be completed before starting another, to sell a number of covering chambers slightly different in form. Each of these can be temporarily fitted in the main apparatus; and after having a section of film fed into it, may be detached by cutting the film through with a penknife, when the whole may be developed simultaneously. A peculiar form of dark slide has also been invented, by the use of which glass plates may be developed in much the same way.

A TRUE POCKET DARK ROOM.



The progress of development may be watched through an eyehole in the dark chamber, thus permitting the photographer to work by the Watkins factorial method or by any other system that he may prefer. As hypo never enters the apparatus, there is no possibility of stains arising from imperfect cleansing; and as not a drop of liquid need be spilled, the operations may be carried out under any circumstances. The price of the apparatus for negatives 3¼in. by 2¼in., the only size that is ready, is 25s.

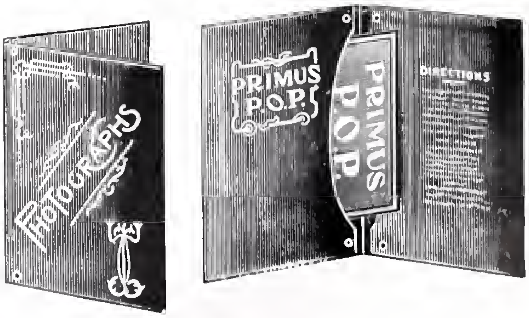
It can be heartily commended.

Primus Papers in Pocket Cases.

Messrs. W. Butcher and Sons, of Camera House, Farringdon Avenue, London, E.C., have hit upon a novel method of issuing their printing papers and postcards. Each packet of paper is stowed away in one pocket of a sort of wallet made of stiff cartridge paper. As there are two pockets in each case an obvious use of the contrivance is to keep the unexposed paper in one and to place each print as it is exposed in the other, pending development or toning as the case may be. The wallets are so constructed that the paper would be with a little care sufficiently shielded from light during the short interval that usually elapses between the two operations.

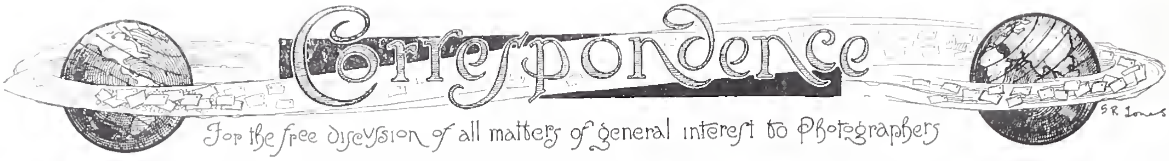
Another useful feature is that the directions for working are printed on the cover, where they will always be at hand when the loose slip of printed matter enclosed with the paper has been lost. It is also suggested that they should be used as envelopes for prints to be sent through the post. We should not be much surprised to find them come into general service as letter cases after having performed their original duty.

The papers issued are Primus P.O.P., Primus gaslight



paper, and—a variant upon the latter—Primus gaslight postcards. The print out paper resembles in its excellent qualities many other papers on the market. It prints quickly and tones easily, and the results are in all respects admirable. The general treatment is that common to all papers of the kind. The prints must be washed before toning to get rid of the free silver, and the formula for the toning bath is: Sodium formate, 15 grains; sodium bicarbonate, 3 grains; gold chloride, 2 grains; in water, 20 ounces. The fixing bath is made by dissolving two ounces of hypo in twenty ounces of water. This is a very dilute bath, and care should be taken not to remove the prints too soon. At least a quarter of an hour should be given, and immersion in two separate baths for ten minutes each would be better.

The gaslight paper and postcards are of the slow variety now so popular, and may be worked in feeble gaslight. Metol hydrokinone is recommended as the developer, and yields capital black tones, inclining to a bluish shade. The actual formula is: Metol, 10 grains; hydrokinone, 30 grains; sodium sulphite, 350 grains; sodium carbonate, 350 grains; potassium bromide, 5 grains; in ten ounces of water. This developer keeps very well in bottles filled to the top and well corked. We think the makers are wise in recommending a plain hypo bath instead of the acid fixing bath so often suggested for this class of paper.



Correspondence

For the free discussion of all matters of general interest to Photographers

The Editor is not responsible for the opinions of his correspondents.

RADIANT ENERGY.

Sir,—When so much interest has been excited through the discovery of radium it may further research to illustrate a molecular physical effect which I find is produced in the dark upon photographic sensitive paper by exposure to a new radiator which I have recently discovered. As no means are at present known for producing copies of these remarkable changes, I enclose the original photographic papers, after their exposure in the dark to this radiator, when it will be found that these photographs display by reflected light colours produced by the radiator, and permanently fixed on the paper. These colours of blue, red, yellow, green, etc., are produced by placing bodies between the radiator and photographic absorber; in fact, by diffraction of the radiant energy.

I send you a radiator so that you can obtain radiographs at pleasure from its use. I have coined the word radiograph because this radiant energy produces effects entirely different from those of light energy.

In the chance that it may not be spoilt in transit, I have placed inside the radiator a sheet of P.O.P. paper, which ought to be removed from the cardboard, and toned and fixed; then if you attach another sheet of P.O.P. paper to the cardboard, with the sensitive face next to the cut cardboard, and shut the box, you can get a radiograph under your own supervision. View it in candle light twenty-four hours after placing it in the box, and then in thirty-six hours, and if it shows colour it may be removed; or if the colours are wanted stronger leave it for another twelve hours. The radiograph can either be toned and fixed, or else merely removed from the cardboard and left for forty-eight hours, so as to get a silver ground on the white or unaltered parts; in this case mere washing in pure water for a considerable time is all that is necessary. Different printing papers produce different radiographs, and if you can get manufacturers of photographic paper to send me a few samples of their products you will greatly assist my experimental researches.

The rationale of the process is as follows:

The radiator is throwing off vibrations of such a peculiar nature that they synchronise with those of the salts of silver on the photographic paper whilst in their sensitive unstable state. Hence, when the radiator is enclosed in a box along with the photographic paper in any position, its vibrations control those of the salts of silver, and ultimately change them into new systems of vibration of a permanent nature, which are no longer unstable and sensitive.

Futhermore, during the process every circumstance which affected the vibrations from the radiator when close to the salts of silver produced a physical molecular change of a permanent nature on the vibrations of these salts, as is evidenced by the various colours now reflected from them.

All this is strictly in accord with the present scientific explanation of allotropy. The marvel is that a radiator should now be discovered whose vibrations produce these allotropic changes on metallic salts, and just now it is impossible to foretell the influence which this new radiator may have in the future; but it begins well by graphically representing a series of allotropic changes on the salts of silver heretofore unknown, and which are now under human control.

I consider my "rationale of the process" the only scientific one which can at present be entertained. The electrons supposed by some to be the cause of radiant energy are at present merely learned imaginings exciting wonder, whereas the experimental facts are the real wonders, and experiment is the only means to advance our knowledge of the subject.

These facts are sufficient to prove that radium does not stand alone as a radiator which produces astounding physical results. The utility of these discoveries can only be ascertained by patient research, but there can be but little doubt each radiator has its own distinct functions.

Yours, etc.,
ARCHD. C. PONTON.

Jersey, 29th June, 1903.

[We have received the "radiator" and a number of results which promise to be of great interest from our correspondent, who is a son of the late Mongo Ponton, the discoverer of the sensitiveness to light of bichromated gelatine. As they have not been in our hands more than a few hours, it is too soon to pronounce with any degree of definiteness upon them, but we are putting "the radiator" to the tests our correspondent suggests, and hope to be able to report thereon in a later issue.—ED.]

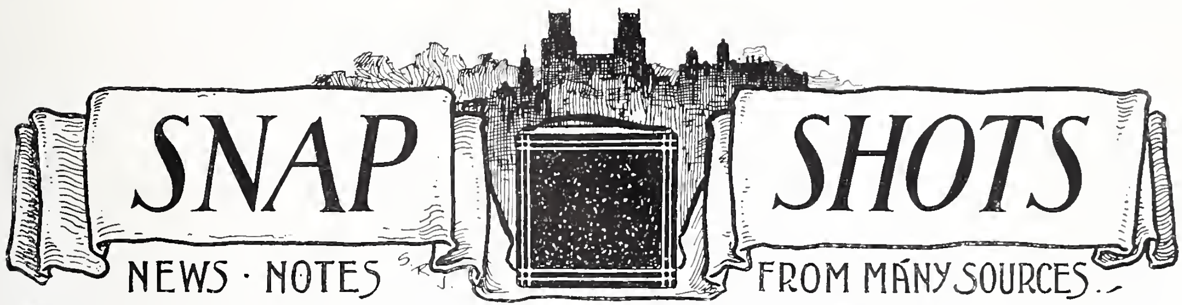
The Improved "British Ensign" Roll Film Cameras.

THE few bright days that we have been favoured with recently have tempted the hand camera worker forth, and the click of the shutter is now heard in the land. New brands of roll films and cameras to carry them are being constantly brought out, whilst those that have been some little time before the public have been altered and improved out of recognition. For some weeks we have been experimenting with the new model of the British Ensign camera, using it both in town and country. Except in outward shape it now bears little resemblance to the first patterns issued.

All the parts, we understand, are made in England, and Messrs. G. Houghton and Sons have spared no pains to make it as efficient in its work as it is elegant in appearance. The lens now supplied is a Beck symmetrical, and the simple time and instantaneous shutter has been replaced with the Bausch and Lomb "Gem," which, as most of our readers know, gives a range of exposures from the one-hundredth of a second up to one second. A focussing scale is now provided, and this is fitted with the Cornex Index, an ingenious little contrivance which dispenses with reference to "depth of focus" tables. Those of our readers who have not yet seen this accessory may be interested to know that it is a piece of transparent celluloid taking the place of the usual index pointer. Engraved upon it are a series of black lines bearing the diaphragm numbers.

When the pointer is set for any distance on the focussing scale a glance at the diaphragm number corresponding with that at which the lens is working will show within what distance objects in front of and behind the plane of critical focus will be reasonably sharp in the negative.

The result of the many alterations that have been made is that the camera, while retaining its compactness, is capable of being used for every class of work, and is calculated to give satisfaction to whoever may use it. We have found it to be inconspicuous, readily brought into action and as quickly folded up, the mechanism works smoothly, and is reliable however hurriedly it may have to be used, whilst the extent to which the lens can be raised in the vertical position is of the utmost value in dealing with urban subjects.



SNAP SHOTS

NEWS · NOTES FROM MANY SOURCES

Messrs. Hopkin and Williams, of 16, Cross Street, Hatton Garden, London, E.C., have issued their July list of chemical preparations for analytical, edacational, and technical purposes.

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Free copies of the guide to Harwich and Dovercourt will be sent on receipt of a postcard by the Town Clerk The usual guide book information is given, and is accompanied by excellent half-tone reproductions from photographs.

× ×

"Spottopake" is a preparation made by the Vanguard Manufacturing Co., of Maidenhead, in colours, black and purple brown. The first is for use in spotting platinotype and bromide prints, the other for P.O.P. The instructions are to stir it up and put a minute touch on the left thumbnail as a palette. A sable brush is moistened and a little of the colour taken up with the point. It covers well, and should be used sparingly.

Male Palmated Newt. *By Douglas English.*

× ×

A developer for feebly printed P.O.P. In twenty ounces of water dissolve ten grains of sodium acetate and then two of pyrocatechin. When developed to the right depth, put the prints straight into a combined toning and fixing bath. According to the time left in here they will take on any tone from warm red to purple.

× × × ×

To blacken iron chemically place the thoroughly cleaned article into a mixture of equal parts of (A) forty per cent. silver nitrate solution, (B) forty per cent. copper nitrate solution; after ten minutes, dry it over a sand bath till properly black. The same method may be applied to lens mounts, microscope stages, etc., the solution being preferably sponged on in the latter case.—*Photo. Gazette.*

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Mr. F. O. Bynoe, after having been connected with the firm of Messrs. R. and J. Beck, Ltd., for no less than twelve years, has now accepted the position of business manager to the Brooks-Watson Daylight Camera Co., Ltd. In common with Mr. Bynoe's many friends in the photographic world—trade, professional, and amateur we congratulate him on his position, which, we trust, will be as satisfactory to him as his labours must be to the company with which he is now connected.

Mr. T. Hallett Fry has resigned his appointment as secretary to the Property Alliance, Ltd.

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We see now advertised in the *Deutsche Photographen-Zeitung*, A.G.F.A. roll films for daylight loading.

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The June "Elge" list of original film subjects for the kinematograph contains particulars of the latest novelties which Messrs. L. Gaumont and Co., of 22 and 25, Cecil Court, Charing Cross Road, have in hand.

Printing platinotype paper under blue glass is suggested by Mr. Arthur Bronson in the *American Amateur Photographer* as a means of obtaining bright prints. The glass he finds best is a medium blue flashed, of such a depth of tint as would add about twenty per cent. to the time of printing. We have not tried the experiment, but the suggestion agrees with the experience of those who have found that yellowish negatives, or those that have been intensified with uranium, give muddy images on platinotype paper.

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At the Johannesburg Photographic Society on the 10th ult., Mr. W. Reginald Prior, in the unavoidable absence of the Rev. Mr. Harris, demonstrated the making of enlargements by means of magnesium ribbon. He used a Lancaster 12in. by 10in. Multum-in-parvo enlarging camera, and was successful in making a good enlargement from a half-plate negative taken at the opening of the Legislative Council at Pretoria. Barnet bromide paper and the Imperial Co.'s single solution developer were used, the lecturer stating that he had found it the most economical for bromide paper, it being possible to develop ninety-six twelve by ten sheets of paper with twenty ounces of it. A general discussion on photographic matters followed, and samples of plates and papers were distributed by Messrs. Turner and Co., of Johannesburg.

SNAP SHOTS

MR. A. JAMIESON, who has for many years been closely connected with the editorial conduct of the *Optician*, has severed his connection with that publication, and is to edit the *British Optical Journal*. Our monthly contemporary has secured the services of one of the most capable of optical journalists.

The end of the story (see p. 31). *By David Blount.*

THE EXHIBITION OF THE Y.M.C.A. CAMERA CLUB will be held from the 28th to the 30th of October. Four gold, nine silver, and seven bronze medals are offered for competition. Full particulars may be had from the honorary secretaries, Messrs. D. J. Hogg, of 3, Trinity Street, and H. Cochrane, jun., at the Y.M.C.A., Wellington Place, Belfast.

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THE DEMONSTRATIONS OF THE TYMA daylight developing trough at Harrod's Stores, Brompton Road, S.W., have been so successful that in future they will be given on both Mondays and Fridays at 11 a.m. and 3 p.m. Similar demonstrations will also be given at the London Stereoscopic Co.'s premises at 106, Regent Street, W., on Tuesdays and Thursdays at 3 p.m.

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AT THE SUNDERLAND PHOTOGRAPHIC ASSOCIATION'S EXHIBITION, which is to be held on the 18th, 19th, 20th, and 21st of November, there are to be three open sections, champion photographs (any subject), framed pictures (any subject), and lantern slides in sets of four. One gold medal is offered in the champion section, one gold medal and silver and bronze medals at the discretion of the judges in each of the other sections. The entry forms are now ready and can be obtained from the honorary secretary, Mr. W. E. Kieffer, of 1, Stirling Street, Sunderland.

AN EXHIBITION of photographs is being held at the Camera Club, and will remain open until October. Admission is on Tuesdays and Fridays from 3 to 5 p.m.

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THE BUSINESS of Messrs. Gunn and Stuart was sold by tender at the High Court before Master Romer to Mr. Stuart, one of the partners, and will in future be carried on by him with the assistance of the principal members of the staff.

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THE AMATEUR PHOTOGRAPHERS' WALK of twenty-six miles from Cardiff, organised by Messrs. P. and A. Robertson, was held on the 27th ult. Mr. Rhys Evans, with a record of 4h. 41m. 52s. was the winner. Mr. A. G. James was second, and Mr. F. O. Edwards was third.

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MESSRS. ANDREW J. LLOYD AND CO., of 323 and 325, Washington Street, Boston, U.S.A., have sent us a copy of their "Photographic Encyclopedia," which is as complete a price list of photographic apparatus and material as we have seen. The first hundred pages are devoted to formulæ and other items of practical information.

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AN EXCELLENT METHOD of drying non-curling films which are tacky on both sides is to bend a number of pins into double hooks; when the points are driven through the edges of the films and the other ends are hung to a line. An alternative method is to thread a long piece of thread through the edges of the film and to stretch the thread across the room.—E.C.

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"PHOTO NOTIONS" is the title of the new catalogue which Mr. J. Leadbeater, of 5 and 7, Frederick Street, Rotherham, is issuing post free to all who send for it. With a view to assist those who have recently taken up the study of photography he has organised a series of free demonstrations, which all in the vicinity are invited to attend. The third of the series was held on the 24th ult.

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THE SPECIMENS OF WORK done with the Bausch and Lomb telephotographic lens, which Messrs. A. E. Staley and Co., of 35, Aldermanbury, London, E.C., are issuing post free to intending purchasers of these lenses, exemplify the marvellous wealth of detail which it is possible to obtain in photographs of distant objects. Those who are already working in this direction may be glad to compare these results with their own.

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THE NEW PRICE LIST of photographic apparatus and materials which Messrs. R. and J. Beck, of 68, Cornhill, London, E.C., have brought out contains detailed descriptions and prices of the numerous cameras, lenses, and other goods for which that firm is responsible. The list is well illustrated, and will be found useful by the photographer who desires to make additions to his outfit.

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THE ROCHESTER OPTICAL COMPANY, of Rochester, New York, U.S.A., according to the *New York Commerce*, have under consideration plans for a re-organisation. The assets of the company at a recent meeting were given as $650,000, and the liabilities $280,000. It is said that there are those who are prepared to put $300,000 into a new company if the stockholders of the existing company will accept shares of the re-organised company in place of their holdings.

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THREE-COLOUR PHOTOGRAPHY may be applied to paper, says Dr. Miethe, in the following way: A glass plate is coated with a mixture of water, gelatine, sugar, and bichromate, printed when dry in direct sunlight, and then dyed (the colour corresponding to the negative printed from) by brushing over with the proper dye. It is then coated with collodion, placed in water, and in a warm one per cent. gelatine solution, the film is removed and transferred to a white paper support. The two other images are superposed in due course.

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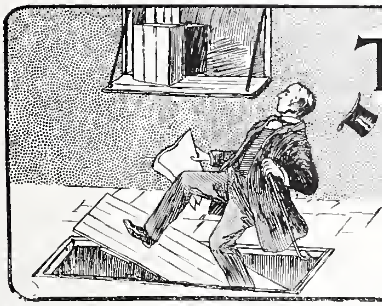
THE LEEDS CAMERA CLUB at the invitation of the Hull Photographic Society takes an excursion to Hull on the 11th inst. Members desiring to travel by the 12.20 train must obtain their tickets through the honorary secretary, Mr. F. G. Issott, of 62, Compton Road, Harehills, Leeds. Tickets for the 3 p.m. train may be obtained at the station on and after the 9th inst.



TRAPS & PITFALLS *for beginners in* PHOTOGRAPHY.

JUST nine years have elapsed since in an old world Yorkshire house, with mingled feelings of nervous excitement and hopeful anticipation, I sought the seclusion of an upper storey with a window facing the north, from which I first uncapped a lens and thus entered the arena of amateur photography. Since that—to me—eventful occasion, so many accidents and misfortunes have fallen to my lot, that there have been moments when, were it not that I spurned the idea of defeat, I should probably have thrown over the whole affair.

In photography, as in everything else, perseverance is indispensable, and had I in a moment of childish disappointment forsaken it, it would only have been to discover that whatever pursuit I had taken up as a substitute, similar obstacles would have to be encountered. There is an old adage that " to be forewarned is to be forearmed," and the object of this contribution is to point out a few of the numerous, but less frequently mentioned, pitfalls into which the beginner sooner or later may tumble.

The Roller Blind Shutter.

I have used almost exclusively, and still use, the roller-blind, behind-the-lens pattern of shutter, and the following precautions I find are necessary to supplement the directions usually given. As soon as I have set the shutter, I place the cap on the lens, for if the blind should have become slightly worn, thereby admitting a suspicion of light, and the shutter of the dark slide be drawn some little time before the exposure is actually made, the cap will cover the weakness in the blind. Just before making the exposure I remove the cap, replacing it over the lens immediately after taking the view. The advantage is that if by mistake I reset the shutter before closing the dark slide, the cap being on the lens, nothing untoward happens.

In changing from instantaneous to short time exposures, say of one second, one is very apt in the flurry of the moment to set the exposure valve at one second and to forget all about moving the indicator on the shutter from I to T, the result being another instantaneous exposure. Look, therefore, at the indicator before releasing the shutter.

Prevent the Cord from Catching.

After setting the shutter, the little red tag of wool at the end of the cord sometimes gets entangled in part of the camera, especially in windy weather. Particularly is this liable to take place when the baseboard is extended, so that when the shutter is released the tag catches instead of running up to the base of the shutter, and, in consequence, leaves part, or whole, of the plate exposed. The remedy is to stand on the windward side and so act as a screen, and to place the tag on the baseboard immediately below the shutter, on no account allowing the cord and tag to hang down below the baseboard. As an additional precaution, the tag may be watched to see that it "goes home" directly the exposure is finished.

The Time Exposure Valve.

I have learnt that caution is necessary when using the time arrangement and the exposure valve; not to set it, for instance, at two seconds and, through over anxiety, merely to give one sharp squeeze, at once releasing the hold, and thus to close the shutter when only about a quarter of a second has been given to the plate. The firm pressure on the ball in the palm of the hand should be continued until the imprisoned air has gradually escaped, allowing the blind to close at the time indicated on the valve dial.

I was unlucky enough at the outset to receive a roller-blind shutter from a good maker which sometimes had the peculiarity that the lever did not fall when the pressure was withdrawn from the ball, and owing to this the blind remained open. This, I may add, was quite an extraordinary occurrence. Still I record it, and advise anyone buying a roller-blind shutter to ascertain that it works as correctly as a well behaved shutter should do.

Releasing the Spring.

After the day's work, I make a point always of releasing the spring, leaving the pointer on the speed indicator at its lowest position. To forget this, and put away the shutter perhaps for weeks with the indicator at 1-15th or 1-25th of a second, is to cause the spring to be subjected to a useless strain.

After a time, I have found that some slight allowance becomes necessary, owing to the spring being weaker than when first bought, and that it is desirable to give two turns to the spring of the shutter when using it for time exposures, to ensure the blind running home. When possible, I find it advisable to make a trial exposure in order to be sure that all is correct.

Padding in the Double Dark Slide.

A crop of pinholes will arise from the plates moving about in the dark slides when the springs of the separating diaphragm are weak, or when it has no springs, owing to the backing getting powdered and to minute pieces of glass or wood getting chipped off the edges on the dark slide. These particles generally find a resting place on the surface of the film. In order to prevent this I find it desirable to introduce some padding to hold the plates steady. The padding may take the form of a piece of cardboard bent at the middle and at the ends. If too much is used it will force the slides partly open and admit light, or it may prevent the shutter from opening and closing.

A Simple Precaution.

Before leaving the dark room I make sure that each shutter of each dark slide will draw completely out.

Loading the Slides.

I have discovered that it is possible when pressed for time to place one of the plates with the back surface uppermost in the dark slide. Happily, this error may be detected whilst in the dark room by partly pulling out the shutter. With an unbacked plate this mistake would lead to a reversed diffused image, and with a well backed plate no image would be formed on the plate.

Folding up the Camera.

Until I found out the reason I often had some difficulty in folding up my camera after a day's work, the bellows refusing to pack up as they should do. The cause was generally traced to my having made free use of either the rising or falling front, and in packing the camera had forgotten to return the front to its central position.

Tripod Head v. Turntable.

Instead of using a turntable, which is not an unalloyed blessing, I prefer the solid baseboard. I think in the end that it cannot be surpassed either for rigidity or convenience, particularly if the legs of the tripod have to be spread out, or if the camera has occasionally to be used on a table or other flat surface. To make up for what would appear to be the turntable's main advantage, a strong screw gripping the camera to the tripod gives all the movements required. When once an approximate standpoint has been decided upon, I ease the screw and move the camera round as I require, retightening it after the view is satisfactorily arranged on the focussing screen.

EXPERIENTIA DOCET.

A New Celluloid Roll Film. The "Imperial."

We have lately had under trial the new film which the Imperial Company of Cricklewood has brought out. The qualities that it exhibited when tested in the dark room in the plate tester were of so marked a character that we felt impelled to give it a prolonged trial in the camera for all classes of work. Its behaviour has amply confirmed the good opinion we first formed of it, and it has enabled us to do work which could only be bettered, if at all, by the Imperial plates.

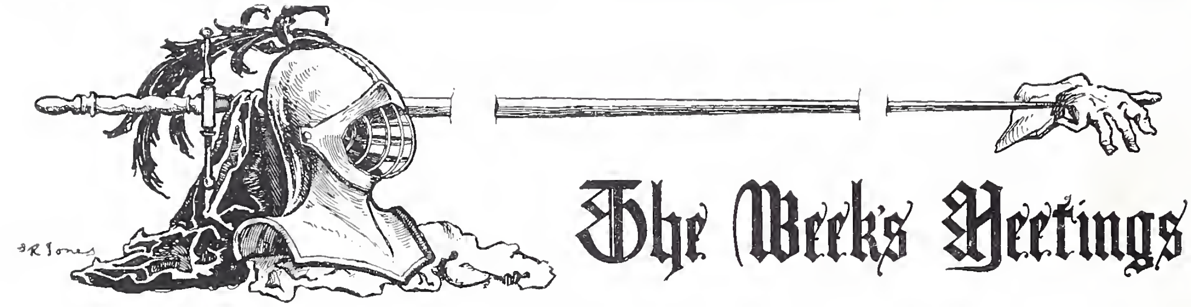
In the plate tester the speed shown was quite three hundred, as reckoned by the Watkins meter, an exceedingly high degree of sensitiveness for a film, as most of our readers will recognise. This speed, remarkable as it is, is accompanied by great density in the lower numbers, and by a complete absence of fog in those portions not exposed; in fact, the negatives obtained resembled lantern slides in their clarity. At the same time it was characterised by excellent gradation, and by rapidity in development.

Although the trials conducted in the darkroom with the plate tester must, as a matter of course, be confirmed by actual trial in everyday work, still working with a plate or film the characteristics of which are not familiar, there is occasionally a tendency to expose under circumstances that even the best of emulsions could scarcely respond to, and there is also an unconscious endeavour to press development to the uttermost. This is the more likely to occur when high expectations have been formed in the first instance. Estimating the speed at three hundred Watkins, as we have said, the film responded to the tests without the slightest signs of breaking down, and yielded excellent negatives under very trying conditions.

Although in work to be done in the streets of a town, one can scarcely have greater sensitiveness than the work calls for, even when the lens is used at full aperture, the circumstances are different in the field and by the sea. There the intensity of the light will permit a smaller stop to be employed with considerable advantage in the matter of depth of focus, and widened limits in the choice of subject. It is in this direction that the picture maker will find the advantage of increased sensitiveness.

The instructions issued with the films are of the usual character, and call for no special comment. Pyro-metol and soda is the developer recommended, the proportions being, approximately, one and a quarter grains of pyro, one grain of metol, three grains of potassium metabisulphite, half a grain of potassium bromide, and forty grains of sodium carbonate to the ounce of working developer. It is of course unnecessary to say that other developers give results equally good. The company advises that the film after the final washing should be soaked in a one in forty solution of glycerine. When the film is cut into sections, it may be a convenience to do so, but if it is kept in the full length and printed from in one of the frames devised for that purpose, the glycerine bath becomes needless, and there is less risk of evil effects from damp. The price of the film is that commonly charged (3s.) for twelve quarter-plate exposures.

A Squirrel (see page 41). *By Douglas English.*



The Week's Meetings

THURSDAY, July 9th.

Hackney. Town Work.
Barrow Nat. Paper Pulp Works.
Watford. Social Evening.
Ashton-under-Lyne. Adjourned Annual Meeting of Members.

SATURDAY, July 11th.

Excursions.

South London. Hogsmill River.
Boro. Poly. Hampstead Heath.
Ilford. Burnham-on-Crouch.
Hull. Leeds C C. Visit to Hull.
Bristol. Ashton.
Walthamstow. Hawk Wood, Chingford.
Leeds C.C. Visit to Hull.
Dewsbury. Ryhill.
Blackburn. Hoghton Tower.
Hackney. President's Outing and Sports.

MONDAY, July 13th.

Attercliffe. The Carbon Process.

TUESDAY, July 14th

Nelson. Prints. Canal Bank and Hacking Ferries.
Hackney. Excursion Prints due.

WEDNESDAY, July 15th.

North Middlesex. Combination Printing. H. Smith.
Boro. Poly. Monthly Print Competition.
Everton. Members' Show of Prints and Sale of Spare Apparatus.

THURSDAY, July 16th.

London N.W. Self-portraiture Competition and Criticism of Prints.
Watford. Informal Discussion and Consideration of Members' Work.

SATURDAY, July 18th.

Excursions.

North Middlesex. Stanstead Abbots.
Hackney. Zoological Gardens.
Croydon Nat. Boxhill, Denbies Park, and Ranmore.
Hull. Swine.
Keighley. Gargrave and Rylstone.
Nelson. Roughlee and Barley.
Halifax. Saltaire and Shipley Glen.
Bradford. Hardcastle Crags.
Cricklewood. Ruislip and Ickenham.
Batley. Crigglestone.
Catford and Forest Hill. Rochester.
London W. Stanmore Common.
Woolwich. Dartford Marshes.
Barrow Nat. Cartmel Priory and Aynsome.
Everton. Excursion.

Societies will have their meetings announced here if the syllabus is sent to us at the beginning of the Session, or from time to time.

PHOTOGRAPHY, No. 765, Vol. XVI.

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NOTICE TO CORRESPONDENTS.

All letters, advertisements, etc., must reach the office on Friday morning to ensure being dealt with in the issue for the next week. In cases of great urgency, letters delivered up to the first post on Tuesday morning may be in time to receive attention, but this cannot be guaranteed.

In all publishing matters, letters, orders, etc., should be addressed, ILIFFE & SONS LIMITED, 3, St. Bride Street, London, E.C.

Advertisement copy and orders, and these only, should be sent to the printing works. They should be addressed ILIFFE & SONS, LIMITED, Coventry.

LEADER

Preparing for the Exhibitions.

Within a very short space of time, the photographer who is devoting his holidays to making negatives for exhibition purposes must set himself to the task of getting his prints ready. The joyous days under the canopy of blue will be over, and the sedentary work of combination—masking and sunning down—that printing entails will have to be commenced.

Our leading workers have evolved from long experience the methods best suited to the idiosyncrasies of their work, and require no assistance. Those, however, who are emerging from the chrysalis stage, and are essaying for the first or second time to run the gauntlet of the selection committees, may have their labours lightened by a few practical hints. These also will probably be the more anxious to avail themselves of the newer methods which recent improvements in apparatus and material have placed at their command.

In our "Spirit of the Times" last week we called attention to the advantages attending the use of roll films for sky negatives. Now that these films are coated with extremely fast emulsion, their advantages are not restricted to cloud subjects alone; indeed, the combination can be effected with greater ease when both negatives to be employed are of a pellicular nature. In printing from them, it is desirable, except when they are of the non-curling variety, to mount them by the edges to a cut-out mask of thin but stiff paper, and to print in a frame larger than the negative. Not only does this keep the film flat and facilitate the work in a general way, but it enables the amount of the sky space to be extended—a matter of considerable importance in many cases. In such instances, the sky in the landscape negative must be vignetted off as low down as possible, and in printing in the clouds from the sky negative vignetting must again be resorted to. Such work, of course, can be carried out with glass negatives, though it is in many instances more easily performed from films. There is a special type of negative, however, with which the best results can be only obtained in a direct manner when films are employed both for the landscape and the sky negatives.

Few workers of pictorial excellence nowadays produce negatives of what was at one time described as the "plucky" type, which printed out with absolutely white skies. It is now pretty generally recognised that if good gradation is to be given to the terrestrial part of the landscape there must be a fairly deep tint over the sky, and this is more strongly marked when orthochromatic plates and colour filters are made use of.

It may occasionally happen that the clouds present are retained in a printable form, but even when it is so they may be unsuitable in form or in position. In the majority of cases, however, when foreground objects are included, the relative exposure will be so long that the cloud forms will be practically absent, and an uniform tint over the sky will be alone observable. Before light clouds can be printed into such a subject, the tint must be in some way removed. Masking is the common practice, but is at all times a troublesome process. With film negatives, the operation is much simplified.

The first operation is to make a positive transparency of the sky on a plate much larger than the original negative. The part that is to be used should be near the top of the plate—white clouds on a darker background—and the lower portion should have a supplementary exposure so that the clouds vignette gradually into opacity towards the bottom. From this a negative must be made. It should be very thin, and the lower portion should be clear glass. The clouds alone, in fact, should have any perceptible density. If now the film landscape negative is laid over this and adjusted in position, the white clouds reinforce the strength of the sky in parts and remain white in the print.

Printing is a perfectly straightforward operation; no masking is required, as there are no lines of junction to be vignetted off. From the combined negatives an enlarged print may be made direct, or, if a transparency is made, an enlarged negative can be produced from it.

Watching a photographer (see p. 25). *By E. Marriage.*

EXPERIMENTS ON KEEPING PLATES.

We have more than once drawn attention to the technical committees appointed by the Société Française de Photographie, the last of which was to determine the best practical methods of preserving dry plates. M. Gravier, who was a member of that committee, made a communication recently to the society, in which he suggested the interposition of black absorbent paper free from chlorine, external wrapping up with waxed paper, and finally soaking the containing box in paraffin wax to effect a hermetical sealing up of the contents. Committees being reformed every three years, a new one is to be selected shortly, and M. Gravier is anxious for it to resume the experiments, and work upon some of his suggestions. As, however, he states later that in his experience most makes of plates in their *present* condition keep well for years, surely some change of subject or theme would prove of more advantage to the world in general. He has found some plates of Monckhoven's (made in 1888) and others made in 1890 and 1892 still in usable condition. On the other hand, silver chloride papers have been found to alter in a few months, and we may add that chloride plates which contain no free silver are almost as unsuitable for keeping. It is not often, generally speaking, that either plates or papers have to be thrown away in these busy days owing to deterioration through "age"; but, it would certainly seem to be advisable to experiment first with the products which notoriously are most subject to rapid deterioration. If all photographic material kept as well as do the plates, we should have little cause to complain.

* * *

PART THREE OF "CAMERA WORK."

Mark Twain, speaking of the "Fortyniners," said they were the pick and choice of the world's best and bravest. No old or middle-aged men, but all in their prime, and they carried things with a rush and an abandon that made the Old World smile and say "California again." Whether it comes from the mixture of races, or from the fact that the new land has in all times been recruited from the strong and daring while the less energetic remained at home, it would seem that the spirit of the "Fortyniners" has entered into the American people in their doings. In commerce and in all other matters they show a spirit of make or break that is little known on this side of the Atlantic, and that runs us hard in all our undertakings. The third part of *Camera Work* which lies before us as we write, exemplifies the preceding remarks. There is a whole-heartedness about Mr. Stieglitz's paper which is unrivalled here. It is more than doubtful whether such a journal would obtain remunerative support in this country, though no such fears appear to afflict the editor of our contemporary. All the skill of the Photochrome Engraving Co. has been lavished upon the gravures and "Letitia Felix," and the illustrations to "Eben Holden," by Clarence White, are masterpieces of what the photographer and the photo-engraver can produce. "The Street," by Alfred Stieglitz, a design for a poster, is one of the happiest and most natural mist effects we have seen. It should act as an example of how to produce such work to those who get their mist effects by under-exposure or by wilfully fogging the plate. The letterpress also cannot fail to interest alike those who are in sympathy with the secession movement and those who are opposed to it.

* * *

THE COLOUR PHOTOGRAPHY SOCIETY.

A week or two back we referred to the proposed society for promoting the advance of colour photography which was being formed under M. Leon Vidal's direction. In the *Moniteur* just to hand we find that it has now reached a definite stage, and that the committee have drawn up certain rules, which are laid out in the space devoted to society news. The association is to be known as the "Comité d'Etudes Photochromiques," and it will be composed of corresponding members, as well as those who can attend its meetings. "The committee has for its aim the study, encouragement, and propagation, by every means in its power, of technical methods and divers applications of 'photochromy' to the arts, sciences, and industries." We have before us the twenty-two articles or rules which members of the society are to observe, and, judging from the minuteness with which they deal with everything, it would seem as if the members expect great things to come of it. It is surprising how little colour photography is done, comparatively, in our own country. Lantern slides in natural colours, and photographs on paper in colours, are within the reach of an infinitely larger number of well-to-do photographers than have taken them up, and three-colour process work seems to go ahead at a rate which is nothing but disappointing to manufacturers. We express the hope, then, that the French society will indeed devote its energies to the utmost, as if success attends its efforts there is little doubt that other countries will follow the example, with the possible result that what remains to be done to simplify the existing methods will be accomplished.

* * *

DYES FOR ORTHOCHROMATISM.

An article is contributed by Prof. Valenta to *Photographische Correspondenz* on the sensitising capabilities of some of the colouring agents of the cyanide group. Cyanine, or chinoline blue, is one of the oldest red sensitisers, and a plate bathed in a dilute solution of this dye and exposed for a sufficient time shows a sensitiveness to almost the whole spectrum. Several spectrum photographs are given from plates dyed with the reagents discussed, and from these it appears that ethyl red, like the others, is not of such extraordinary value as has recently been made out; and of the other dyes, scarcely one seems to give any better orthochromatising effects than a good brand of erythrosine, or erythrosine and uranine together. One, which rejoices in the name of paratoluchinaldin-parabromchinolincyaninethyliodide, is too slow to be of any real use, and the lepidin compounds give no sensitiveness to green. We cannot quite see the reason for the inordinate praise which is so frequently bestowed on these new dyes, and though Prof. Valenta probably knows more about dyeing emulsions than any other photographer at present, it cannot be admitted that these cyanine derivates form any very valuable additions to the dyes already at our disposal. With a suitable brand of erythrosin and some "cyanine blue," it is possible to make solutions for bathing plates which will render them properly sensitive for both orthochromatic and colour photography. It is when the dyes are added to the emulsion with which the plates are coated, we believe, that the trouble begins!

A Lion, Borgo San Donino.

* * *

THE PERMANENCE OF GASLIGHT PAPERS. Some experiments in connection with the permanency of gaslight papers which Herr Suss describes in a recent number of *Photographische Chronik*, we think, will be of general interest; for although the papers tested were Velox and that made by the Neue Photographische Gesellschaft only, the many papers on the market are sufficiently alike in character for that which applies to two to apply probably to the lot. It had been stated that the latent image was destroyed by keeping exposed paper for four months before development. Hence Suss exposed some papers under various negatives which had plenty of contrast in them, developed one or two to see that they were satisfactory, and then packed up the rest in the original wrappings, and bottled off the developing solution as well. After trying his patience for eight months and a half—more than twice as long as the period given—he again turned to the paper, and uncorked his developer, which consisted of water four ounces, edinol fifteen grains, acetone sulphite one drachm, and sodium carbonate one hundred and fifty grains. Both brands gave perfectly good clean pictures untainted by fog, and the unexposed paper kept along with the rest also gave entire satisfaction. It is to be noted that Herr Suss wrapped up his paper carefully, kept it in a suitable place, and took every precaution.

FOGGY RED SENSITIVE PLATES. A correspondent from St. Petersburg wrote recently to a contemporary, giving an explanation of the fog which is met with in so many plates which have been sensitised for red rays. It was based on the assumption that the heat which enters into the composition of the extreme red end of the spectrum acted on the plates the same as light would do. "Does it not seem," says the *Moniteur de la Photographie*, "that this explanation is more hypothetical than theoretical?" It is hardly necessary to say that a blue dye is used to sensitise plates for red rays, and therefore it is difficult to understand quite how this theory—or hypothesis—applies, unless we take it to mean that if the red rays are absorbed by a plate owing to the presence of a blue dye, their physical as well as chemical action will affect the film. In carrying out some recent experiments for a panchromatic plate, we obtained several emulsions which were not only sensitive to red, but also gave a strong band for some of the infra-red rays invisible to the eye. None of these plates, however, exhibited any tendency to fog, but worked cleanly in the developer, with the twelve minutes' treatment we gave in every instance. Cyanine blue has a tendency to give fog, apparently; but is not this due to the fact that the little red light which must be used to prepare the plates is sufficient to fog them alone, without the aid of any physical phenomenon?

THE ESSENTIAL REQUIREMENTS OF A ZOOLOGICAL PHOTOGRAPH

BY DOUGLAS ENGLISH

SPECIAL TO "PHOTOGRAPHY."

MORE than two hundred years ago a collection of natural history letters, photographic in their nicety of observation, was published by one Benjamin White, of Fleet Street. The author was Gilbert White, curate of Selborne, and the price was one guinea, in boards. Under the title of "White's Natural History and Antiquities of Selborne," these letters are approaching, if they have not passed, their hundredth edition. The latest of these editions lies before me as I write. It is illustrated by photographs, and the photographs are the work of the brothers Kearton.

Natural history photography is at the present moment in its infancy. The employment of photographs to illustrate a natural history classic, therefore, is of the nature of a challenge. In his introduction, Mr. Richard Kearton writes: "Whatever may be the judgment of present-day naturalists, we feel sure that he (Gilbert White), at any rate, would have been the first to recognise our honest endeavour to illustrate worthily that which he gathered together with so much care and pains."

It would need but a cursory glance through the pages of this edition to convince any naturalist—past, present, or future—that an honest endeavour had been made towards this end, and that the endeavour had been crowned with more than the ordinary measure of success.

The illustrations are, as might be expected from the nature of the task, uneven. A score or so call for almost unqualified admiration; another score are of sensational rather than zoological interest; the remainder might have been reserved judiciously for the "little animal romances" of the monthly popular magazines.

In more than one instance, the scientific value of the pictures has been discounted by the artificial "blocking-out," which is the curse of modern half-tone reproduction, and which, by its complacent substitution of a pretty sky or distance for an ugly background, almost invariably falsifies the illumination of the main object.

The discredit attaching to this practice falls, quite undeservedly, on the photographer, whose pictures immediately lay themselves open to the question, How far does the brushwork extend?

In the illustration of popular and ephemeral work, such printing dodges, though of necessity discordant, are harmless enough. In the illustration of anything that purports to be natural history, they are unfortunate. In the illustration of a classic, they are deplorable.

It is certain that the Keartons have done as good work by stalking methods as anyone living. It is doubtful whether better work can be done, even in America. That they should have spent hours up to their necks in water; that they should have grasped a revolver in one hand and a pneumatic bulb in the other; that they should have dangled over cliffs and waded through quagmires in pursuit of their quarry—argues an intrepidity which most of us would be content to admire from a distance.

Present-day naturalists, however, can only be concerned with the results, and the question arises, Do the results justify the intrepidity? In other words, what are the essential requirements of a good natural history photograph, and are these requirements satisfied to the full by the perfection of stalking methods? I incline strongly to the opinion that they are not, and that they cannot be.

Put as briefly as possible, we may say a good natural history photograph should form a standard of recognition.

It is something that we should be able to recognise an animal's photograph from our knowledge of the animal; but what is required is that we should be able to recognise an animal from our knowledge of its photograph. The application of this criterion condemns ninety per cent. of the zoological photographs at present in existence.

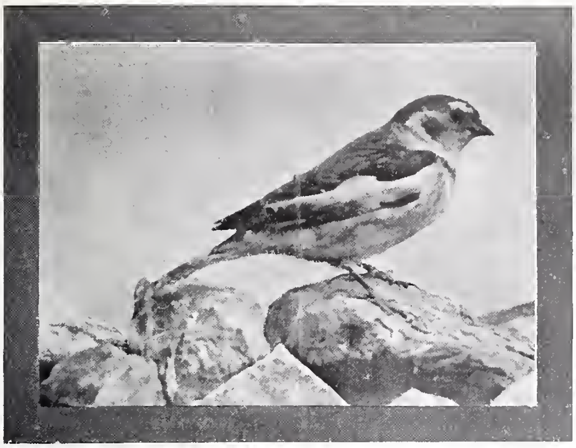
The deficiencies are deficiencies of characterisation. To form a standard of recognition, the picture—or, rather, the series of pictures—should show the differentiating (1) points, (2) coloration (by suggestion), (3) attitudes, (4) surroundings.

Stalking methods undoubtedly are the most satisfactory as regards 4; they may or may not be satisfactory as regards 3; they are generally unsatisfactory, judging from results, as regards 1 and 2. Control methods, on the other hand, can, if properly employed, be made certain as regards 1, 2, and 3, and for most purposes good enough as regards 4.

I have pointed out before the limitations of stalking photography, which, in practice, confine its application to the illustration of bird life. It would perhaps be well briefly to recapitulate them.

To admit of camera stalking, the quarry must be (1) diurnal in its habits, (2) terrestrial as opposed to aquatic, (3) of a reasonable size (say, bigger than an adult field-mouse), (4) normally visible in the positions of rest, (5) easy of observation.

Birds are the only living things which in the majority of instances satisfy these requirements. Even in the case of birds, however, control methods are applicable. Personally, I have no experience of this branch, but, through the courtesy of the photographer, Mr. Chas. Louis Hett, I am enabled to give a convincing example. In the photograph of the cock snow-bunting reproduced, the reader should notice that the differentiating points, coloration and attitude, are well rendered, and that the surroundings are not impossible.



Cock Snow Bunting. *By Chas. Louis Hett.*

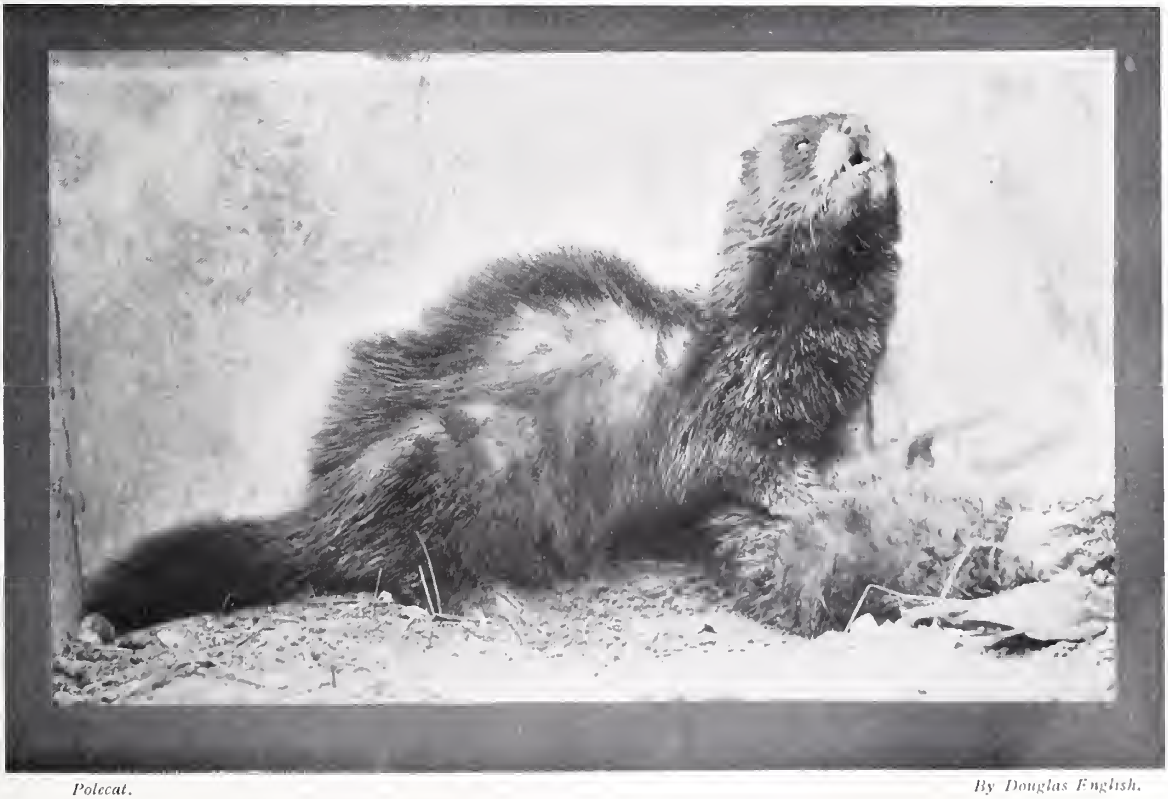
Work of this kind opens up a new field, and an exceedingly interesting one. Any of the commoner British birds can be purchased in London. The photographer would do well to confine himself to a definite family—the finches, for instance—not resting content until he has secured intelligible and distinctive pictures of each member. The series could be *supplemented by the results of stalking*—nests, eggs, birds on nests, birds feeding young, and so forth—and, thus supplemented, would be invaluable and complete. My own experience has convinced me that, in order to ensure a picture of zoological value, some measure of control is essential.

To consider mammals first. The majority of the British species are nocturnal, small in size, invisible in the normal position of rest (concealed in their lairs), and difficult of observation. Flashlight pictures are quite worthless, owing to the unnatural intensity of illumination. The practice has a certain vogue in America, and, if we can credit the reproductions that reach this country, is chiefly applicable to the photography of deer. I have not yet seen a result which could not be improved upon by a third-rate artist.

The average British photographer has few opportunities of exercising his skill upon the monarch of the glen. A trial on the cat, however, will sufficiently define the limitation of the process.

It is certainly impossible to depict satisfactorily any British mammal in a single picture. Front and side views, at least, are indispensable for its clear recognition. The four illustrations of an individual red vole will show this clearly enough. [Three are on the next page. The fourth is incorporated in the title.] Anyone who knew the animal would hesitate to say that one position is more characteristic than another.

In addition to attitude, however, the photographer-naturalist has to consider "points"—the points, I mean, which differentiate closely-allied species. Scientifically, photographically, and zoologically, these points are of vital importance. A photograph, for instance, of the common toad, which shows its hind legs, should also show that the hind feet are webbed. A photograph of the male palmate newt should show the webbing of the feet and the filament that terminates the tail. A photograph of a bank vole which shows its tail should also indicate the tail's length in comparison with the body. Photographs deficient in such respects as these occur with only too great frequency in control work; in stalking they are the general rule.



Polecat. *By Douglas English.*

In dealing with reptiles, the advantages of control methods are so marked as to put stalking out of court altogether. Not the least amongst them is the possibility of giving prolonged exposures in diffused light—a matter of the greatest importance in photographing shiny metallic surfaces. In the case of snakes, very careful adjustments are necessary in order to secure a well-defined picture of a reasonable size. It would probably be impossible to fill a half-plate with the picture of a two-foot snake without stopping down to f/32. It should be borne in mind that any reptile can be tamed, and that when tamed it will oblige by posing for minutes at a time. A tame lizard is the most amiable sitter in the world.

Fish are altogether outside the province of the stalker. The only valuable method for securing the photograph of a living fish is to confine it between the walls of a narrow glass-sided tank. The published photographs of dead or stuffed fish "swimming" are numerous on both sides of the Atlantic. This branch will be considered later.

There have been many attempts to secure insects by stalking, but the results are almost without exception discouraging. In this country the failure is probably due to their insignificant size. There is no British insect which could not be taken life-size in the position of rest upon a quarter-plate. If we take set specimens into consideration, this limit might be exceeded slightly in the case of the wing-spread of the Death's Head moth.

Red Vole.

The majority of British insects, however, conceal the most interesting portion, if not the whole, of their wings while in the only positions which are photographically possible. Such cases form, in my judgment, the only legitimate excuse for photography from death.

As the limitations of our art stand at present, it is impossible to photograph an insect in flight in such a way as to secure a picture of reasonable size and definition. The picture of the cockchafer reproduced was taken just before the moment of flight, in brilliant sunshine, exposure a nominal thousandth of a second, lens aperture about f/8, distance from the object about two feet. It is obviously under-exposed, yet the blurred edges of the wings, quivering preparatory to flight, show clearly that the exposure was not fast enough. In actual flight the wings would undoubtedly be moving faster—perhaps ten times as fast—and the cockchafer is comparatively a slow flier. [This photograph is reproduced on the next page.]

Red Vole.

If we are to get a good photograph of an insect's outspread wings, therefore, we are compelled, if we except those few insects that obligingly display their wings in the position of rest, to photograph set specimens.

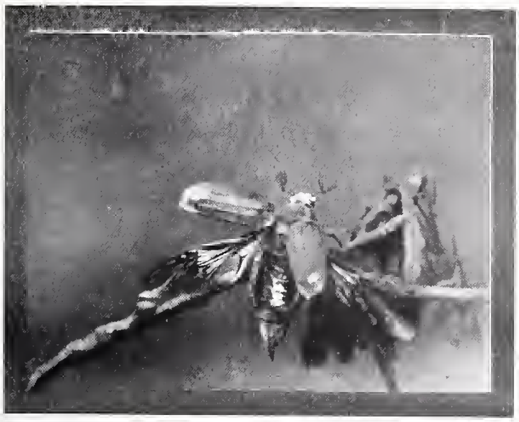
This—the photography of the dead—is control photography pushed to its most extravagant conclusion.

One book in particular, the recently-published photographic natural history, "The Living Animals of the World," has quite a notable percentage of the illustrations reproduced from photographs of "specimens." Out of the twelve hundred odd pictures, at least two hundred—and possibly more—bear the stamp of death upon them.

He is truly a sanguine photographer who can hope so to set up a specimen, stuffed or not stuffed, as to ensure that its photograph shall bear a reasonable resemblance to the living reality.

To begin with, the extreme difficulty of satisfactorily stuffing a mammal—first pointed out by Charles Waterton, since emphasised by the deplorable national collection at South Kensington—would deter any but the most reckless.

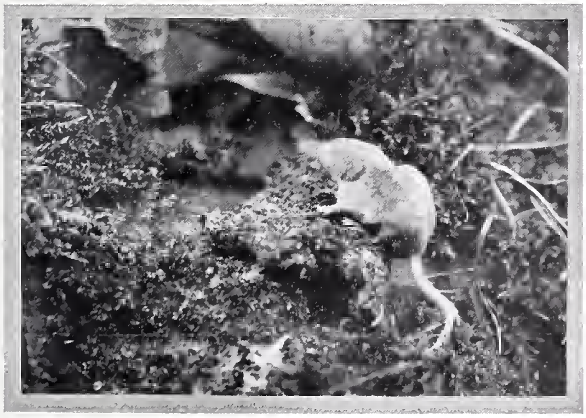
Suppose, however, that the attitude, and the muscular adaptation to that attitude, have been passably rendered, we have the further difficulty of ensuring that our representation of a dead opaque integument shall adequately convey the qualities of a living transparent one.



Cockchafer.

In the case of fur, this difficulty would appear to be quite insuperable. In the case of scale or feather, nothing but extreme over-exposure and subsequent intensification will partially remedy it.

There is the further difficulty of the glass eye. The glass eye somehow lacks depth, and I know of no photographic dodge which will combat the deficiency.



Dead Shrew Mouse.

When we come to the consideration of dead as opposed to stuffed specimens, we find that the curves produced by *rigor mortis* are so peculiar and emphatic as to defy modification.

The photograph of the dead shrew-mouse reproduced displays to advantage several of the characteristic features by which a photograph from death can be detected. The reader should notice, firstly, the depression between head and body; secondly, the downward curve of the snout (in life it is either straight or tip-tilted, any fleshy boneless protuberance would be similarly distorted); and, thirdly, the relaxed junction between tail and body.

In the October number of "Animal Life" may be found another shrew-mouse displaying similar characteristics in illustration to an article by Mr. Oxley Gratham.

A dead fish, no matter how cunningly devised the surroundings may be, usually betrays itself by the clear definition of its pectoral fins. These fins are employed mainly for balancing, are during life perpetually in motion, and, therefore, are impossible to render with smart definition through a medium of glass and water.

As regards the comparative difficulties of "control" and "stalking" methods, my own experience leads me to believe that the difficulties are about equal, but that those of "stalking" admit of greater and more thrilling variation. As a case in point, there are in my neighbourhood two rookeries. In the one, the adventurous photographer of "young rooks in their nest" would have to risk his neck. In the other, an adjoining rook's nest would provide him with an easily-attained and comfortable seat.

Harvest Mouse. Life size.

For lecturing purposes, the former alternative would be the most effective; for scientific, the latter. Such alternatives are by no means confined to rooks' nests.

There, of course, is another view of control methods. The ***British Journal of Photography*** pronounces, airily, as follows: "We can sincerely recommend it" (my book on control photography) "to the amateur photographer in search of easy fields of work presenting more novelty and profit than the aimless snapshotting of the seashore and back garden." I cannot conscientiously endorse the recommendation; none the less do I wish the aimless snapshotters good luck.

THIS MONTH'S "REVUE DE PHOTOGRAPHIE" is quite up to the standard of its previous numbers, and contains many pleasing illustrations which, we think, would have been improved had an occasional border been thrown in to relieve the monotony. An article on the Paris Salon, with a note as to what one should do to produce pictures worthy of it, is contributed by Robert Demachy, and among many other articles of a similarly æsthetic nature is placed a highly mathematical one entitled "Calculs," providing several formulæ for lens calculations, which are forbiddingly stupendous in some cases. The "Review of Reviews," "Bibliographie," etc., make up the usual excellent book.

"The time has come, the Walrus said, to talk of many things."

I HAVE had no less than two very serious jars to my normal complacency within the last forty-eight hours. The first was when I found my son and heir in my dark room trying to develop a plate he had exposed in a shilling camera which some fiend in human guise had given him. The second was when I saw a kerbstone purveyor of literature with an armful of a new photographic paper in a flame-coloured cover. I nearly fell off my perch. In fact I was so astonished that before I could recover I bought a copy. And paid for it!

* * *

My first thought was to find a reason for the fiery red of the cover, which I attributed to a No. 9 blush at its temerity in appearing at all. But after reading the contents I have arrived at a different conclusion. It has been pointed out many times that there exists some subtle analogy between colour and sound, and there are cases on record where persons who have received their sight at an advanced age have compared bright red to the sound of a trumpet. And I should think that with a little practice the writer of some of the pars. in the paper would make a good trombone player, although he writes from Harp Alley. There is one thing to his credit, though. He does not claim that the cover of the paper and a wax vesta make an excellent substitute for a ruby lamp.

* * *

He also commands my profound respect, inasmuch as he has attempted deliberately and of malice aforethought to fill two pages with photographic humour in pictorial form. Now, when I see some forlorn brother trying to find any trace of fun or humour in, about, or connected with photography, he has my sympathy, in big chunks. Already, even in the first number, he is despairingly offering half-sovereigns to anyone who can send or even suggest anything photographically humorous.

* * *

There is one thing that always strikes me as curious in the first number of a new paper, and that is where the questions to be answered come from. We pick up a paper, Vol. 1, No. 1, and there in the query column are some of the usual silly questions from Constant Reader, Old Subscriber, X.Y.Z., Admirer, and all the rest of them. How is it done?

* * *

I have received a letter from Spain (where the liquorice comes from) which has severely shaken my confidence in myself as a remover of difficulties, a solver of problems, a guiding light. From a packet of bromide paper my correspondent has taken papers of instructions printed respectively in German, French, and English, and he has found that they do not agree, especially as regards the Fixir Bad (German), Bain de Fixage (French), or Fixing Bath (English). At Elstree, lat. 52° N., the proportion is twenty per cent.; at Paris, lat. 49° N., it is ten per cent.; therefore at Aguilas, lat. 37° N., it should be *minus 30 per cent.*

* * *

And he asks me what he ought to use. I don't know. It is humiliating to me to have to say so, but I do not know. Some favour a pole-axe, others fancy a bomb. But whatever he uses he has got to get at the authors of the instructions first, and Aguilas is a long way from Elstree.

* * *

As a matter of fact I am in a similar difficulty of my own. The developing formulas of the Seed Plates are stated as being given in Troy Weight. "When that I was and a little tiny boy, With hey, ho, the swish of the cane," it was impressed on my youthful mind (and body) that Troy Weight was solely and specially constructed for the express purpose of weighing out gold, silver, and precious stones. Further, upon this fact were based various problems as to the difference in weight between a pound of lead and a pound of gold.

* * *

And now, according to the makers of Seed Plates, I am to weigh out my vulgar acids and alkalies in the selfsame scales that I am wont to heap with my gold and silver, my diamonds, rubies, sapphires, pearls, emeralds, and other precious stones, that it is my daily habit to shovel up.

* * *

Rules and advice are all very well in their way, but beware lest you follow the rules or take the advice. I was wandering beside a river a week or so ago, making frantic efforts to descry something that could by hook or by crook be manipulated into food for my camera, when I came across a champion subject. It was something like this: Beside a shallow widening of the stream stood the red brick outhouse of a farm, and built round the wall was an old wooden staging with a hand-rail. Overhanging all was a chestnut tree in beautiful leaf, and in the distance peeped a pretty bit of landscape. Round the corner of the house came a picturesque old chap leading a horse, which splashed deeper and deeper into the pool as the man walked along the staging. I had seen the same performance gone through twice while approaching the spot, but it was not till I got to close quarters that I realised what a fine subject was awaiting me.

* * *

"Gooin' to photergraph us, mister?" queried the old 'un. If I had said "yes" I could have got a picture easily with a little management, but remembering the rule that figures are at their best when unconscious of the camera I gave an evasive answer, and man and horse disappeared round the corner. Then I set furiously to work and got the thing focussed and arranged, and noted just the position for the horse to occupy; and in a couple of minutes I was ready with the pneumatic ball in my hand, watching the corner of the wall out of the corner of my eye, and ready to fire away before the old 'un was aware of my intention.

* * *

He was longer getting the next horse than he had been over the others. I began to think that an old proverb had reconstructed itself into "you can make a horse drink but you cannot lead him to the water." I had a train to catch, and my time was short. So was my temper. Why the deuce didn't the old 'un come?

* * *

The explanation was simple. The last horse I had seen was the last one.

* * *

Moral. Don't follow rules in photography.

* * *

A very suggestive question was asked the editor of the photographic column in a provincial paper by a correspondent who wished to know the best developer for use in a place "hotter than India and where no chemicals are obtainable." Presumably he referred to photographic chemicals only, because by all accounts there is no dearth of sulphur and brimstone. Is photography permitted at all in the country indicated? THE WALRUS.

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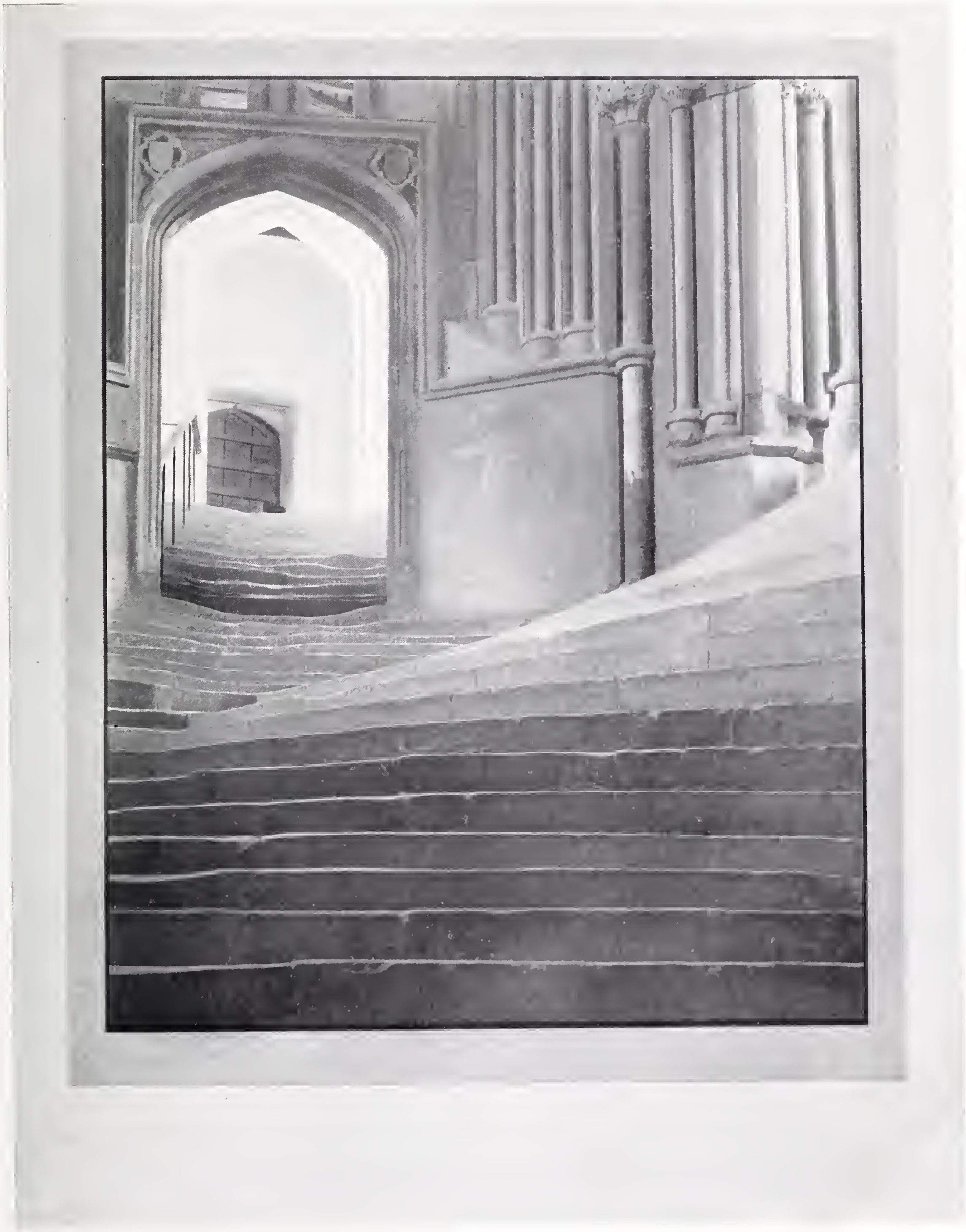
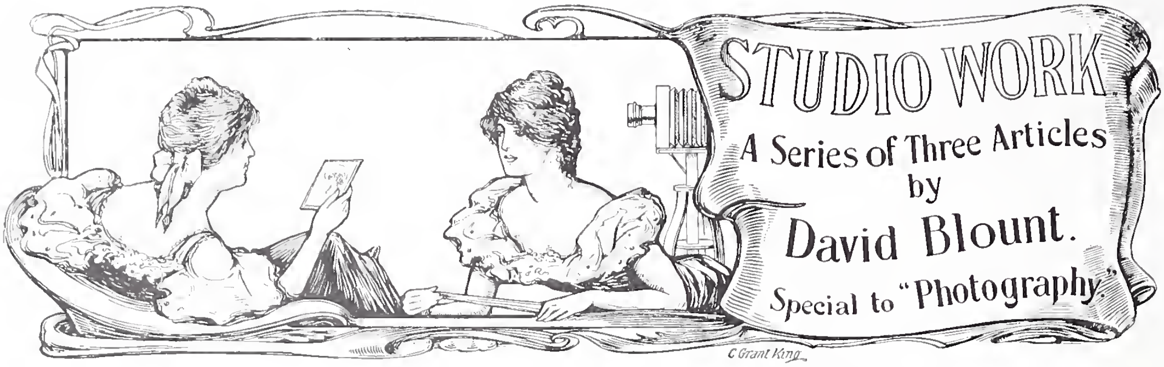


THE CHAPTER HOUSE STEPS. WELLS CATHEDRAL (See Page 65). BY F. H. EVANS



STUDIO WORK.

A Series of Three Articles by David Blount.

Special to "Photography."

II.

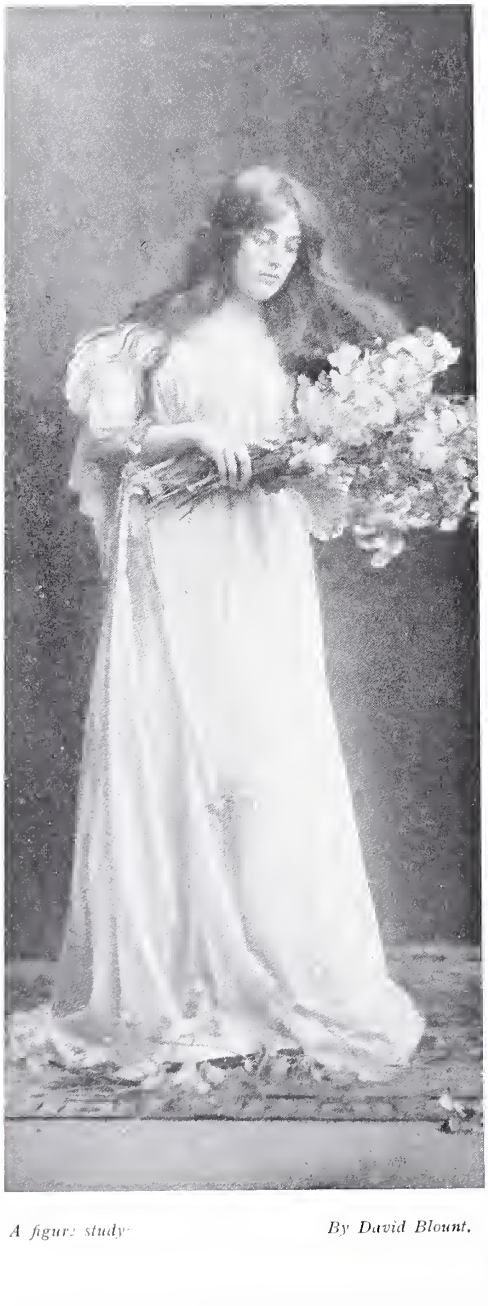
CONVENTIONALITY and the habit of relying upon the opinions of others are two of the failings of the portrait photographer. In these particular respects I am of opinion that the professional even more generally than the amateur is given to following the style and imitating in almost every way the mannerism of his brothers in camera craft. The amateur usually breaks away into more individuality. He is not hampered as is the professional, who not only has to meet the public taste, but in many instances has a lot of old fashioned ideas, taught him as an apprentice, from which he has to free himself.

I daresay I was considered something of a heretic when in my last article I asserted that I thought it immaterial what was the shape of the studio, and that it seems to me that it was the operator's inability, and not the fault of his studio, if good artistic work was not done.

I have noted with amazement at different times the arguments brought forward in favour first of this and then of that form of studio, and the child-like belief that if one pulls this or that blind in a certain shaped studio one gets certain effects, reducing portraiture or picture making, as it were, to a sort of mechanical problem, that once solved, the operator has only to repeat daily.

Now this seems to me to be an altogether absurd idea. Why? Because almost every face and figure differs. It is the artist in photography who can say, "This sitter already has a broad face; I will not accentuate it by some mechanical form of lighting." "This lady's skin is very high in tone, and her dress very black; I must compromise this, and lower the tone of her face, so as not to give her a ghastly appearance in the resulting picture." It is the brain that wants to be used, ofttimes a good deal more than the blinds and the other appliances.

The painter in nearly all his pictures (portraits, I mean) lights his sitters with a very broad open lighting. The face seems almost all illuminated, but then he has colour which balances and modifies all this, whilst in a photograph this same lighting would result in flatness, and scarcely any modelling. So it is better for the novice, just to find out by practice the amount of shadow necessary to give rotundity, and not to use this open lighting at first.



A figure study. *By David Blount.*

"Rembrandt effects" were very much the rage for portrait work some years ago. Although I designate them by that appellation, the so-called "Rembrandt effect" was, and is now in most cases for that matter, as unlike the Master's art as it could possibly be.

It has none of the subtlety of that painter, but the prevalent idea seems to be that if the greater portion of the face is sunk into inky blackness, and the face is held up as though to allow the light to hit it, that a "Rembrandt effect" is secured. The producers of such things forget that Rembrandt gave us warm luminous shadows, and not opacity, although such shadows may appear dark and heavy.

It is safer to keep to ordinary simple lighting, and leave this imitative mannerism to the more advanced and expert.

In the illustrations which are given this week, No. 1 may be taken as a fair example of this conventional style of portrait, and is, in this case, a good deal more pleasing than No. 2. I would remark that in these examples, as with those given with my last article, Nos. 1 and 2, as indeed also Nos. 3 and 4, were all taken without the sitter being moved, the blinds alone being altered.

There are no orthodox rules, nor should there be any with regard to the lighting of a portrait, but it will be obvious to the reader that everything should be in tone. The best way to observe and train the eye in this direction, indeed the only way, is to examine great works of art, either in colour or in monochrome, and then to accustom one's self so to observe that any portion of a photograph that has its tone heightened where it should not be will strike the eye at once.

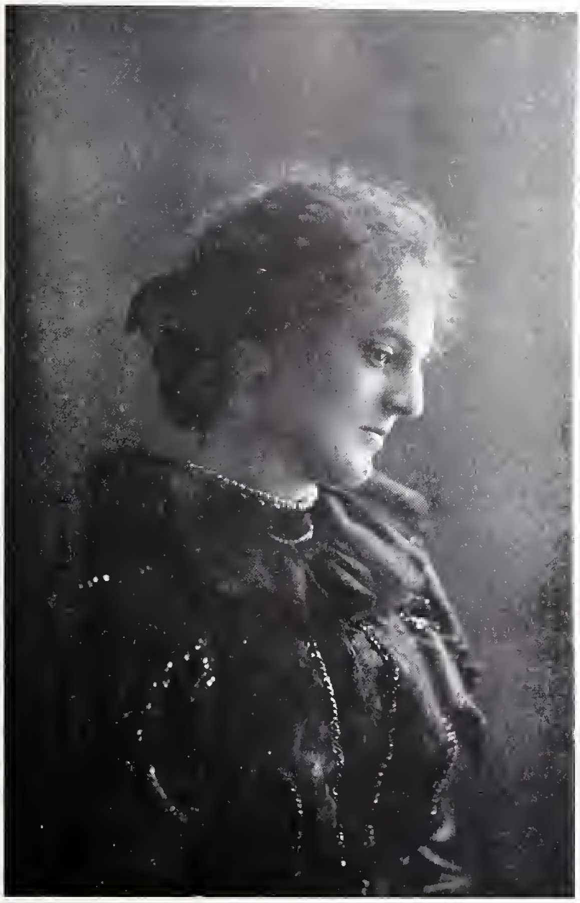


Fig. 1.

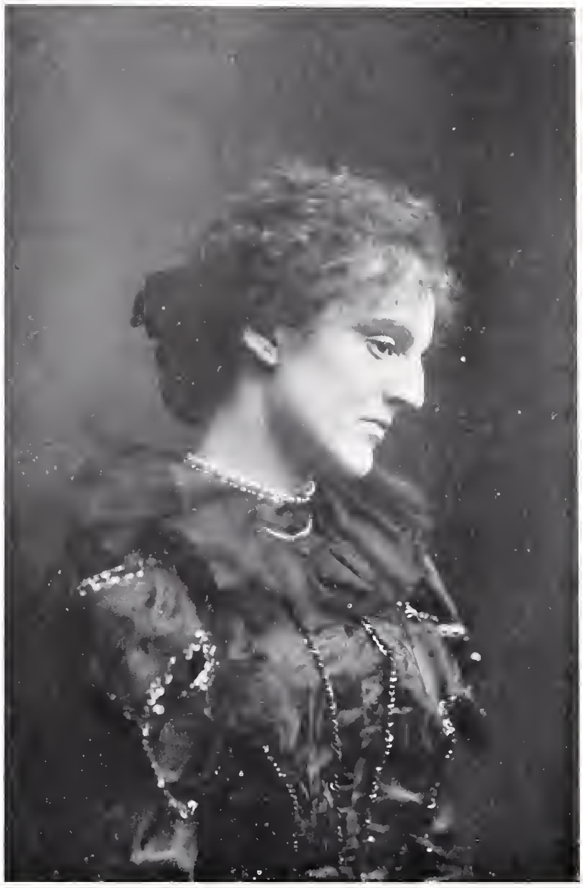


Fig. 2.

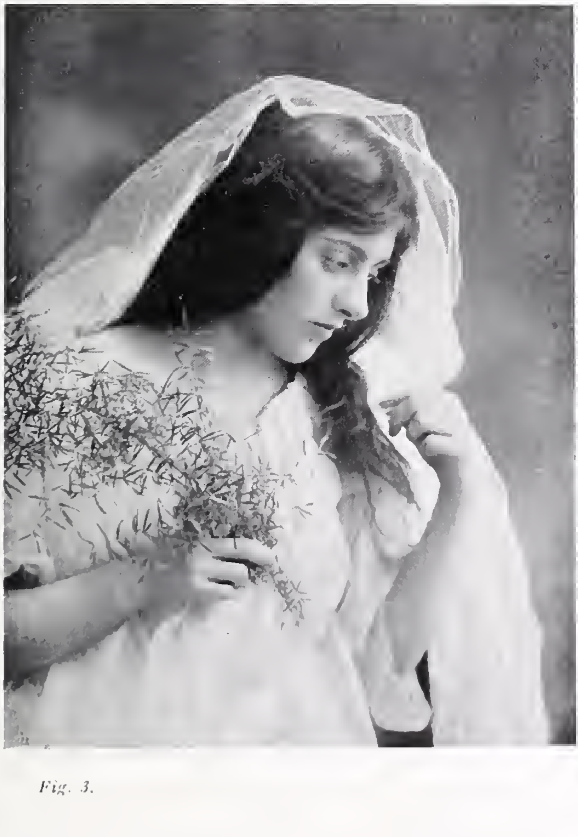


Fig. 3.

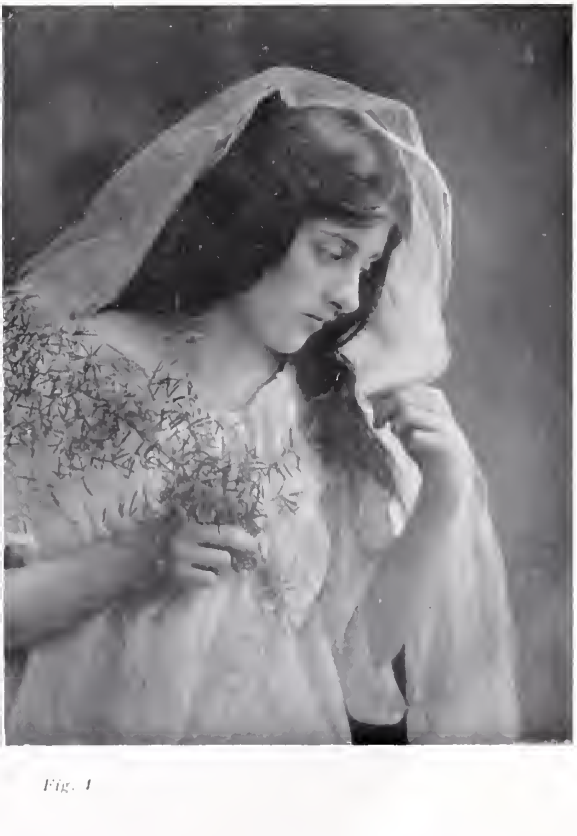


Fig. 4

Such an education and training is far better than volumes of description of lighting, and when once the eye is educated, it is a simple matter so to adjust things as to produce that which is aimed at. It seems to me that it is the eye and the mind that require training, as to where the essentials are to be emphasised, and which are the other details that are to be subordinate.

Let us examine, for instance, Nos. 3 and 4, and it will be noticed how much more in tone the latter looks than the former. This is simply due to careful lighting, stopping off the light where it seems to detract from the face, and at the same time rendering the white muslin drapery and dress less harsh. Let us also notice the manuscript in No. 5, and how, by being rather subdued by the light and by the focussing of it not being too sharp, it takes its place properly in the picture. By placing the model in different parts of the studio, and by taking time—by sitting down and thoughtfully examining the place of lighting—then altering the distance of the sitter from the glass, or the background, and observing again; and by doing this over and over again more will be learnt in an hour's practice than from many pamphlets.

I hate a dogmatist in things photographic, or in anything else for that matter, and I have no desire to be censorious upon those who have written on this subject before. But I have been so astounded at times, on reading the various photographic publications, that I think it time that these small and limited ideas with reference to set forms of lighting, posing, and the like, were things of the past; and am anxious to do what little I can to make them so. I know, of course, that both amongst professional and amateur studio workers, there are many who do magnificent work, artistically and technically—but I am referring only to the ordinary, very ordinary, studio photographs, which are in the great majority. So soon as this latter class are defunct, so soon will photography receive its emancipation and be considered as it ought to be—an art.

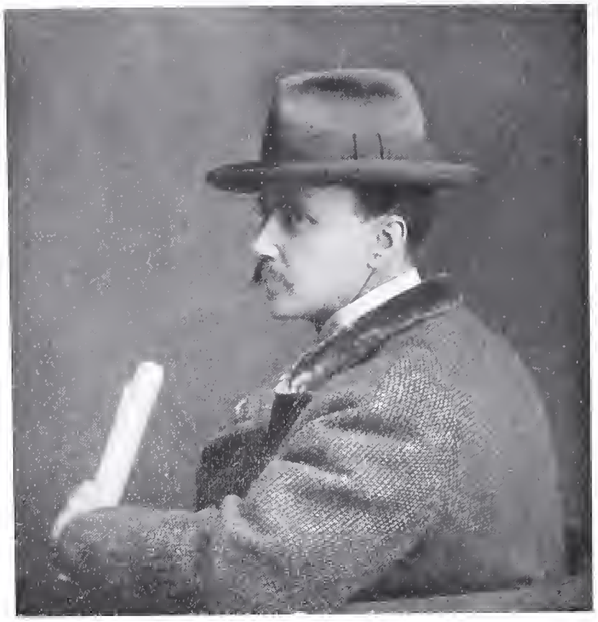


Fig. 5.

Report of Recent Tests made of a GOERZ SECTOR SHUTTER.

THE genesis of photographic shutters, from the days when a broad bonnet flapped quickly from over the lens and back again, as we have been told was the method adopted in the early wet plate days, to those when the focal plane shutter may be set at the thousandth part of a second, would form an interesting chapter in the history of the art. Simple drop shutters, working by gradation, merged into the rebounding type controlled by an elastic indiarubber spring, and in the latter form they were by no means inefficient instruments for landscape or seascape purposes.

The simple form of roller blind, in which a piece of fabric with two openings in it hung over a roller with cords and tassels at the free ends, was also satisfactory for the same purpose. It was of the everset variety, for by pulling one of the cords the exposure was made as the openings crossed each other in front of the lens. Revolving sectors, perforated plates that crossed each other, endless blinds worked by springs, and a host of contrivances, some exceedingly ingenious and many of them effective, some of the everset variety, some that required setting each time of use, were all brought out. Ingenious devices for regulating the speeds by means of brakes, pneumatic and otherwise, were also invented at different times.

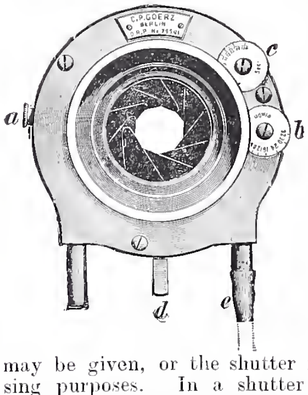
The qualities required in a good shutter are high efficiency, the least possible proportion of the total time consumed in opening and closing, a wide variation in the speeds, with an absolute certainty as to the speeds given. During recent years the iris diaphragm type of shutter, opening from and closing to the centre and controlled by pneumatic brakes, has become very popular, though in some instances much has been left to be desired in the matter of certainty as to the speeds given.

The trials to which we subjected the instrument were directed towards three ends. First, we desired to know how nearly the actual exposures agreed with those indicated upon the graduated disc. Second, we examined the shutter for any tendency to shake or jar at the moment of opening or during the time of exposure, and thirdly, we wished to learn its efficiency.

As regards accuracy of timing, the slower exposures were as nearly as possible correct, while the higher speeds were within a limit of ten per cent. each way of the graduation. This was very much nearer than we expected, and gave the shutter at once a very high place indeed amongst such instruments. How high, only those who have examined many shutters, high priced as well as cheap, can tell. In the matter of efficiency, a shutter of this type may be very good, and, on the other hand, may be very bad. We did not test it at all speeds, but we did so at several, and found it fully equal to most forms of roller blind shutters on the market, other than focal plane, of course. Unlike before or behind lens shutters, however, all that is lost in efficiency, as compared with the focal plane type, is gained in what is virtually a stopping down of the lens, and the improved definition resulting therefrom; an improvement, enough, that is unimportant usually when, as in our case, the shutter is applied to the exquisitely defining double anastigmat.

The shutter works between the lenses, and the outer case is of aluminium. Setting is performed by pressing upward a metal slip projecting from the bottom of the case, and the release is effected by a pneumatic ball. So far it differs but little from other patterns. There are, however, several novelties in the construction. There are two discs on the face of the instrument. The one is scaled to exposures ranging from the one hundred and fiftieth of a second up to half a second.

The second disc regulates the aperture at which the lens works, and ranges from f/6.5 to f/64. The leaves of the diaphragm serve both as stop and shutter. By turning the disc round until the graduation upon it indicates the desired stop opening, the shutter will be found to open from the centre to that size, to pause, and then to close. The opening and closing of the shutter are accomplished in a fraction of the total time, and the efficiency is in consequence very high. By rotating a pointer, either time or instantaneous exposures may be given, or the shutter may be left open for focussing purposes. In a shutter of this type perfection of workmanship is of at least as much importance as good design, and the two qualities are happily combined in the present instance. With an instrument of this class haphazard exposures need no longer be given but may be reduced to scientific accuracy.



QUESTIONS and REPLIES.

Readers wishing for information upon any specific point in connection with photographic theory or practice are invited to make use of the "query form," which will be found amongst the advertisements. All enquiries must comply with the conditions stated upon the query form; those which do not do so are neither acknowledged nor answered. All enquiries are answered by post. We cannot undertake to make replies in the paper. We print below from time to time a selection from the queries we receive, and our replies.

BACKING MIXTURE FOR PLATES.

I have come across the following remedy for halation. Asphaltum is added to pure indiarubber dissolved in benzole until it is of the consistency of treacle. Will you please say what is meant by asphaltum and where it can be obtained? In this part of the country we call gravel and cement mixed together asphalt. Presumably asphaltum is something different.

Asphaltum or bitumen of Judea is sold in the form of a dark brown powder for use in some of the photo-mechanical processes, and can be obtanied from Messrs. Penrose and Co., of 109, Farringdon Road, London, E.C., and from other dealers. A backing mixture made to the formula quoted is said by some authorities to have an index of refraction nearer to glass than any other compound which has been suggested for the purpose. It is, however, very troublesome to make, and the solvent rapidly evaporates. Caramel backing, which can be obtained ready for use from all dealers, is in our opinion every whit as good, is more economical in use, and is easier to apply.

COATING PAPER WITH COLLODION EMULSION.

Can you give me a hint as to how best to coat collodion emulsion on to paper such as Autotype single transfer paper?

The best way is to coat the paper in small sheets. The edges of the paper are turned up to form a shallow dish. Into this the emulsion is poured, and after flowing over the surface is poured off and the paper pinned up to dry. A simple piece of apparatus useful when thin paper has to be coated and when sheets of various sizes are used is made as follows: Take a thin board, say one inch smaller each way than the largest sheet of paper to be coated, and fix a shallow rim round it. The paper is folded to fit inside, and gaps may be left at the corners to allow the folded corners of the paper to project, which will then act as spouts to pour from. When small sheets of paper have to be treated they may be supported in the same tray by fitting a temporary rim across the tray and another in the opposite direction.

CALCULATING EXPOSURES IN PINHOLE PHOTOGRAPHY.

Please give me a simple method of calculating exposures when using pinholes of different sizes.

The simplest method of calculating the exposures that we know of is as follows: Find the size of the pinholes in fractions of an inch. These fractions give the focal values of the apertures when the plate is at a distance of one inch from the pinhole. For example, a pinhole of the diameter of one forty-fourth of an inch is f/44, and the exposure for that aperture and any subject on any plate may be found by the exposure meter or any table of exposures. As, however, the extension of the camera is likely to be many times one inch, that extension must be found and squared, and the exposure first found multiplied by the product. Supposing that the exposure with f/44 were two seconds and the extension of the camera were ten inches then 2 × 10 × 10 equals 200 seconds, the exposure required.

DOUBLE IMAGES WITH FLASHLIGHT EXPOSURES.

In the enclosed print you will notice that some of the figures are doubled whilst the remainder of the objects on the stage are perfectly sharp. The lens cap was removed a minute or so previous to the flashlight exposure and not replaced for about half a minute afterwards, the usual stage gaslights being on all the while and also two lime lights. The flash was made with half an ounce of Bayers powder in a Weiss apparatus. I have a theory as to how the ghost images were formed. I suppose they do not arise from halation or from a lens suffering from "ghosts"? The negative is apparently under exposed. I presume one ounce of powder would be sufficient?

The double images are undoubtedly due to movement and not to any defect in the lens. With such a glare of light upon the stage as is described it was quite possible for the images to impress themselves upon the plate before and after the flashlight exposure. At the same time it is quite possible that the movement occurred during the flash. Half an ounce of powder burnt in one heap takes quite an appreciable time to burn away. When large quantities of powder have to be ignited it is better for many reasons that it should be divided into a number of small portions, all being simultaneously ignited. We do not think that the negative is much under exposed, as there is detail even in the corners and in the dark drapery. The sharp contrasts given by the light proceeding from a comparatively small source are sometimes taken for under exposure. If the powder is divided as suggested the light will proceed from a broader source and will give softer shadows.

NEGATIVES MARKED FROM UNEQUAL DRYING.

I have been troubled lately with peculiar markings on my negatives. They are dried six or twelve at a time in a rack. Sometimes drying takes a very long time, and I have assisted matters by standing the negatives on a mantelshelf. The markings are of all shapes, generally oval. Can the heat on the mantelshelf have anything to do with the trouble?

The markings undoubtedly arise from the dark patches having been dried at a higher temperature than the other parts. It is a bad plan to stand wet negatives close together in a rack. They should be separated by at least one inch, and once drying has begun the temperature should be kept as equal as possible. If the temperature is raised the parts remaining wet will almost certainly dry a darker tint than the parts more exposed to the air in the first instance. Unfortunately, once the fault has occurred there is practically no remedy for it. By soaking the negative in water for several hours and then redrying it equally, the patches may be weakened in tint, but a complete cure is not to be hoped for.

A good style Moorish house, Fez (see page 68). *By J. H. Avery.*

REDUCING HARSH CONTRASTS.

Can you give me any suggestion to improve the enclosed photograph of an interior?

The negative appears to have been somewhat under-exposed, and development to have been pushed as far as possible, in order to secure printing density in the shadows. The result is that the stained glass in the windows has been made over-dense, and prints as nearly blank spaces without gradation. At the same time the faint halation from the top lights has been much exaggerated. Had the exposure given been doubled the shadow detail could have been developed to full strength before the lights would have become over-dense. There are two methods of reducing the contrast. One is to make a two per cent. solution of ammonium persulphate acidulated with a drop or two of sulphuric acid to each ounce of solution. In this the negative is to be placed until the high lights are sufficiently reduced; at the same time the shadows will also be weakened. Another chemical method, and one which reduces the high lights without weakening the shadow detail, is to bleach the negative in a solution of chromic acid 30 grains, potassium bromide 60 grains, and water 10 ounces. It is then to be thoroughly washed; soaking for a few minutes in a five per cent. solution of potassium metabisulphide will assist in getting rid of the chromic acid. It is then to be re-developed; any developer will serve, but caustic soda or caustic potash will cause the film to frill. As the developer is poured on the whole surface of the negative will gradually turn black, but on examining the reverse side a positive image will be seen. As development proceeds, first the shadows, then the half-tones, and lastly the high lights will darken as the negative is examined from the glass side. Just before this last stage is reached the negative is to be fixed, and if the operations have been properly carried out, the high lights will be much reduced in strength without weakening the shadow detail. The halation at the same time will have vanished. Excellent results can be obtained, but the process is one requiring some skill, and the first trials should not be made on valued negatives. A method which involves no risk to the negative, and which is capable of effecting much improvement, is to make a glass positive from it, giving sufficient exposure to bring out all detail in the lights and to develop it just so far that there shall be no clear glass anywhere and at the same time that the shadows shall not be opaque. From this a new negative can be made, which should be better than the original.

FERRO-PRUSSIATE PRINTS.

I have been unable to obtain a decent print on ferro-prussiate paper, although I have got it fresh from the maker and used and developed it within a day or two. I am unable to get rid of the blue in the high lights. Can you suggest any cure?

Ferro-prussiate paper requires negatives showing stronger contrasts than those suitable for printing on P.O.P. The high lights may be cleared by adding a very minute proportion of sodium carbonate (ordinary washing soda will do) to the washing water. A crystal the size of a pea in a pint of water will be amply sufficient. With prints made from strong negatives this treatment is effectual, but as we suspect the image is by no means strong, the shadows will probably become weak before the high lights are clear. An equally weak solution of potassium oxalate is even better for the purpose.

STREET PHOTOGRAPHY.

Are the enclosed film negatives of street scenes under exposed? They were taken on a cloudless sunny day with a lens working at f/6.5 and with 1-50th of a second exposure. Surely under these circumstances one ought to get a fully exposed negative with a rapid film.

The negatives seem to have been as fully exposed as could be expected under the circumstances. We use a hand camera working at f/6, and in the height of summer at mid-day we should not expect with the fastest films in the market to get a fully exposed negative of street scenes with 1-50th of a second. The films look as if the emulsion was as fast as any with which we are acquainted, but the exposure clearly has not been sufficient. They have been developed far enough but have been fogged, as may be seen by the edges, which are by no means so transparent as should be the case with correct development. Unless the exposed edges are quite clear fog has been caused either by light in the dark room or by an unsuitable developer. By using an actinometer and the plate and film speed cards supplied with it all doubt as to the correct exposure will be dispelled, and this is the course which we should strongly advise you to adopt.

NOTICE TO ENQUIRERS.

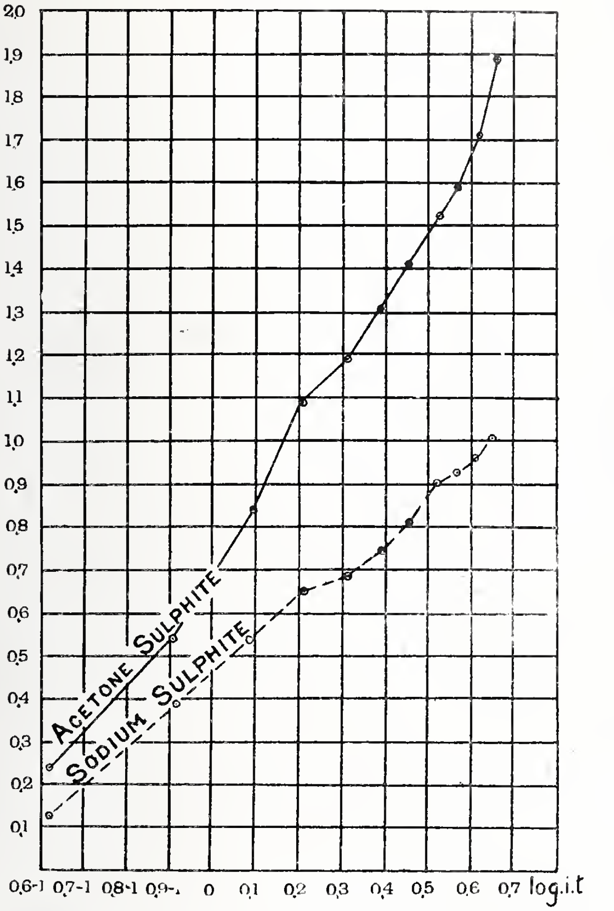
Answered by post: E. D., E. A. Reeve, Empress, H. Wadham, D. S. T., S. W., Argyle, W. McDonald, J. E. Russel, R. L. A., R. B., Assistant Instanto, G. P. B., F/8, Norway, H. Smith, W. Gay, S. E. Randall, E. L. G., T. Thacker, C. R. B., Edinol, Studio, R. B. Wilmot, E. Pole, F. W., Subscriber, Kilburn, H. J. W. Leman, Solio, E. S., Foggy, M. K. Mead, M. Dicker, J. C., Shareholder, T. W. R., G. Rennie, E. T. O'Brien, J. L. King, L. P. A., Constant Reader, T. E. J., W. G., Frena, Automobile, H. Simpson, Walter Cripps, C. Marshall, Liverpool, S. M. Pfarrer, F. D., Tourist, C. McDougal, T. Birchall, R. C. S., Adon, Hart Jackson, W. K. Y., E. A. S., Hypax, G. Guest, A. R. S. Fawcett, S. E. Mangenie, Tom, W. J., Harry Thring, R. T., Troyweight, George Thompson-Billings, C. J. J., Professional, G. M. Gray, N. R. P., A Reader of Piffle, F. Featherstonhaugh, W. Styles, J. R. Bingley, Astigmatism, Edie, Swansea.

USE OF ACETONE SULPHITE IN MERCURIAL INTENSIFICATION.

By PROF. PRECHT. SPECIAL TO "PHOTOGRAPHY."

THE publication in *Photography* of the results of some experiments which I made with acetone sulphite has met with considerable criticism as as regards many of the points made, and I cannot forego an opportunity to clear up these to some extent and to give further confirmatory details. It was stated in the original paper that acetone sulphite acted similarly to sodium sulphite in blackening a negative bleached with mercuric chloride, and that an image blackened with the former reagent is denser than one done with sodium sulphite, and also retains its original colour to some extent.

FIG I



Dr. Eder in his annual publication, the well known "Jahrbuch fur Photographie," 1902, page 558, stated that no such advantage is apparent.

The actual results of some experiments, however, carried out at my instigation by Dr. O. Stephani towards the end of last year are appended.

To elucidate the question, has blackening the image bleached with mercuric chloride by acetone sulphite any advantages over the use of sodium sulphite for that purpose? Dr. Stephani went through the following experiments.

On an optical bench two metres in length, plates were exposed to the light from an amyl acetate sensitometer lamp, so that different strips received an illumination increasing in intensity from four to sixteen units (Hefner meter seconds).

Thus each plate received such degrees of illumination that both the periods of under exposure and of over exposure were included with the result that intensification of some portions or strips would be necessary. These plates were next developed in a four per cent. solution of edinol for three minutes, in order to show clearly the character and distribution of intensification. After very careful fixing and drying, each one was cut into strips of the various densities, and every two corresponding strips of the same plates were bleached for five minutes in a half per cent. solution of mercuric chloride, washed for an equal time, and then reblackened, one in sodium sulphite solution, the other in acetone sulphite solution. As is well known, during the reblackening with sodium sulphite solution, a little decrease of the darkening first produced takes place later, so various periods were allowed for its action, equal times being, of course, given for the corresponding strip treated with acetone sulphite.

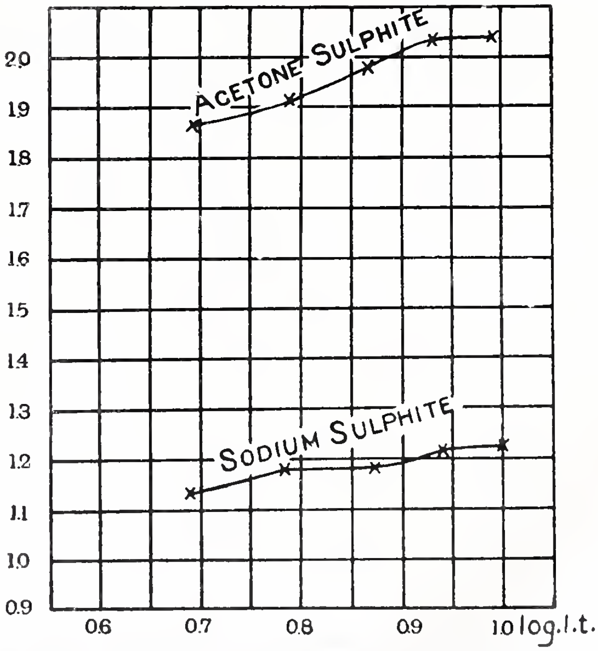
Ten per cent. solutions of these salts were employed for blackening, and periods varying from thirty seconds to five minutes were given.

A superficial comparison of the results was sufficient to indicate at once that the acetone sulphite blackening does not in any case give rise to the disadvantage displayed by sodium sulphite, as regards the blackening becoming diminished again after a certain time, or, at any rate, with acetone sulphite, this only takes place to a comparatively small extent.

There is no doubt, moreover, from a careful comparison of the two methods, that acetone sulphite is distinctly more energetic, even when one compares plates on which the sodium sulphite solution has acted for a very short time. I shall refer again to this in connection with the illustrations given herewith.

It always seems to me useful to get the numerical results, but a difficulty arises, since various colorations of the film make photometric readings a matter of some uncertainty, and if the plates be copied the materials used (collodion, P.O.P., and bromide paper) affect the gradations to a considerable extent. By copying on lantern plates the differences were also considerable. Each method of reproduction, as in that given below, must necessarily more or less alter the degree or extent of gradation. The colour of the intensified negative was not much altered. With acetone sulphite blackening, the tone is brownish black with a trace of purple, and measurements may be made very approxi-

FIG 2



mately. A Martens polarisation photometer was used for the measuring, the usual auxiliary plate being employed when necessary. I give some typical readings from the figures obtained. D is the relative density according to the Martens and Micheli readings, given by the equation:

$$D_r = 2 (\log \tan A_{ag} - \log \tan A_s).$$

A_{ag} is the angle read on the instrument when the outcoming light passes through the film. A_s is the angle when the light passes through the unexposed but developed portions. Here also had to be considered the silver precipitate in which intensification showed as a very fine development fog. The source of error was inconsiderable, being merely the variations in colour of the films, and the result given should be convincing:

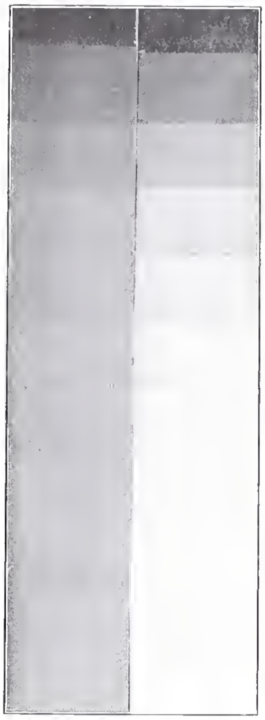


Fig. 3.
Sodium sulphite. Acetone sulphite.
30 seconds

Fig. 4.
Sodium sulphite. Acetone sulphite.
300 seconds.

Quantity of light 0·4 to 4·5 H.M.S.

Fig. 5.
Sodium sulphite. Acetone sulphite.
30 seconds.

Fig. 6.
Sodium sulphite. Acetone sulphite.
300 seconds

Quantity of light 4·9 to 16·1 H.M.S.

Table I.

Quantity of Light, i.t., in H.M.S.	Sodium Sulphite, Dr.	Acetone Sulphite, Dr.	Log i.t.	Proportion of Densities.
0·412	0·126	0·230	0·6149-1	1·83
0·824	0·387	0·544	0·9159-1	1·41
1·237	0·547	0·834	0·0923	1·52
1·649	0·647	1·082	0·2172	1·67
2·061	0·672	1·186	0·3141	1·76
2·473	0·746	1·312	0·3932	1·76
2·885	0·811	1·416	0·4602	1·75
3·297	0·903	1·516	0·5181	1·68
3·709	0·922	1·587	0·5692	1·72
4·112	0·957	1·609	0·6151	1·68
4·534	1·007	1·893	0·6565	1·88

This table shows the difference of the two methods where a small amount of light—comparable with under exposure—is concerned. Where there is a necessity for very gradual intensification, we find in table II. the proportions for the denser portions of the intensifications shown. The more strongly lit parts lie in the region of normal exposure. This table is compiled from the results of experiments in which the blackening solution was allowed three hundred seconds to act, whilst in those in table I. only thirty seconds was given. The influence of time upon the blackening is shown more clearly in the illustration.

Table II.

Quantity of Light i.t., in H.M.S.	Sodium Sulphite, Dr	Acetone Sulphite, Dr.	Proportion of Densities	Log i.t.
4·946	1·139	1·876	1·65	0·6942
6·183	1·186	1·911	1·61	0·7912
7·419	1·188	1·987	1·67	0·8703
8·655	1·215	2·042	1·68	0·9373
9·892	1·215	2·042	1·68	0·9953

The numerical comparison of both methods is best effected by considering the relative densities, and the proportion to one another when equal illumination has been given. The respective columns make it evident that the sections blackened with acetone sulphite are more than one and two-third times as dense as those done with sodium sulphite.

The curves should be noted in connection with the above tables (fig. 1 for table I., fig. 2 for table II.) where the density is shown as a function of the logarithm of the amount of light. Of course, one can prove the essence of these experiments in many other ways, and can arrive at the increase in density in relation to the original in both cases, but such results are not of great value.

The reproductions of the intensified strips show a range of gradations copied for an equal time, each on bromide paper, and thus what I have claimed is made evident to the eye. It is especially noteworthy how, when three hundred seconds were allowed for action, the blackening with sodium sulphite receded, whilst that done with acetone sulphite remained perfectly stable.

In conclusion, I would point out that this property of acetone sulphite is not peculiar to the one substance, for acid sodium sulphite (sodium bisulphite), which has been similarly tested, leads to results which in this direction do not differ materially from those obtained with acetone sulphite. Both compounds work well as blackening media in mercurial intensification, and both are preferable to the normal sodium salt.

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NOTICE TO CORRESPONDENTS.

All letters, advertisements, etc., must reach the office on Friday morning to ensure being dealt with in the issue for the next week. In cases of great urgency, letters delivered up to the first post on Tuesday morning may be in time to receive attention, but this cannot be guaranteed.

Communications for the Editor should be addressed, The Editor of *Photography*, 3, St. Bride Street, London, E.C.

In all publishing matters, letters, orders, etc., should be addressed, Iliffe & Sons Limited, 3, St. Bride Street, London, E.C.

Advertisement copy and orders, and these only, should be sent to the printing works. They should be addressed Iliffe & Sons Limited, Coventry.

LEADER

The New Kodak Policy.

The event of the week without exaggeration may be said to be the issue of a circular under date of July 9th by Kodak, Ltd., to the photographic trade, in which the company announces its intention of abandoning altogether in the future its system of preferential discounts. On and after July 10th the discounts granted to all dealers will be alike, whether or not they are selling roll film apparatus and material in competition with Kodak's goods.

The circular marks the end of a long and provocative experiment by Kodak, Ltd., and if it is not a mere cover for some other manœuvre, of which at the present we know nothing, and of which, to speak frankly, there is no sign, it is a departure, or, rather, a return to a better state of things which is to be welcomed as much by the company's friends as by its foes.

It may be well if we recall at this stage the incidents which marked the introduction of what was then a new method of business by the company, if only to show the extent to which it has modified its policy after submitting it to the test of practical experience. The first signs of the coming departure were to be seen at the end of the year 1900, when it was stated in the Kodak circular that the company objected to the dealers who sold its products handling others which are "got up in imitation of our film spools," etc., etc. This was followed up in March, 1901, with a circular, in which it was stated that one of the conditions of sale under which Kodak goods were supplied to every dealer was that no other roll film apparatus or material should be sold by such dealer.

There can be no reasonable doubt that, in taking this step, the company thought that it had behind it the support of a great many—possibly, of a majority—of the dealers. We said at the time that in this we believed it was mistaken, and that the publication of such an announcement would give rise to great opposition. As our readers know, that was the case. The Free Camera Club was formed with a membership eventually of over ten thousand, the dealers themselves combined, and in the end the objectionable condition was ignored, and finally withdrawn.

In bringing about such a consummation, *Photography*, we hope we may say without undue elation, played a very large part. With the withdrawal of the condition the ground for our intervention was removed, since the means which the company substituted were such as were well within its rights as a trading organisation: while its former policy, however defensible legally, was certainly open to considerable objection from an ethical standpoint. When it announced that in future it would grant a preferential discount, and a big one, to those dealers who signed a declaration that they had not sold any of the competing articles, we pointed out that it was at least within its rights, though we deemed it to be ill-advised.

The company, however, elected to make the experiment. It made it, has taken a vote of the dealers on its books, and, in deference to the wishes of the majority, has decided in future to treat all dealers alike, whether they supply competing roll film goods or not. We are very glad to hear it, for, as we pointed out years ago, Kodak goods had been good enough to build up a huge business upon, and were quite equal to holding it, without adventitious aid of that character, if aid it was.

It is a tribute to the sound business policy of the company that, having seen its mistake, it has not hesitated to put it right, undeterred by having to confess a failure.

Dealers will welcome the change, as it makes their position a much more satisfactory one. The general public must view with satisfaction so clear an intimation of the non-success of the "preferential discount" system, which is much more rampant outside the photographic world than it has been within it. The example of a big company trying it and abandoning it after what has been a long and certainly a fair trial will no doubt be by no means without its effect elsewhere.

The only persons who should regard the move with disfavour will be the makers of the competing products, who have been helped materially during the past two years by the unpopularity which the policy of the Kodak Co. has brought down upon its goods. Even they may perhaps take a more disinterested view of it, and rejoice in the disappearance of a disturbing factor in the trade. On even lines the best goods will command the market. The old "preferential discount" policy was an attempt to command the market by economic strategy, irrespective of merit.

However, it has gone. May it rest in peace.

Spirit of the Times

TO PROFESSIONAL PHOTOGRAPHERS.

Amongst our advertisements this week will be found a reminder of the *Photography* Challenge Cup Competition, which will close on December 31st for the current year. The present holder is Mr. Fellowes Willson, of 141, New Bond Street, London, W. The cup, as our readers doubtless know, is a handsome one of graceful design, and year by year will be engraved upon it the names of the various holders. The professional photographer who can display in his reception room or window such a trophy—awarded to him in open competition with his fellows—will have something of which he may very well feel proud. The award itself is a business asset of no slight value. The fact that it has been made and the work of the winner is not only made known widely in our own columns to photographers, but the general press in the country bring it before the attention of that public from which the professional photographer draws his support. The value of the award is enhanced considerably by its peculiar nature, by the fact that it is not given for work specially done for competition, but by the actual output of the studio. The prints that are sent in are samples of the work that the photographer supplies to his customers. The competition last year was keen and close, and much of the work sent in was very high in quality indeed We hope that this year will surpass it both in the number of competitors and in the quality of the work submitted.

* * *

FOR ENTOMOLOGISTS.

When the photographer has mastered the technical side of the craft, and has wearied, as most do after a time, of indiscriminate photography, he will, if he is wise, take up some special branch of the subject in which he may become an expert. There is no need to neglect other subjects, they will act as a relief to more serious studies. Natural history appeals to most, and some branch of it, say entomology, affords ample opportunities for the use of the camera, although the photographer may require some elementary information in the collection and arrangement of the specimens. On this subject the current issue of the *Journal of Applied Microscopy and Laboratory Methods* has some interesting articles. The specimen, if it is a bug, or a beetle, should be dropped into a wide mouthed six ounce cyanide bottle. To make this, a few lumps of cyanide are dropped in and are covered with dry plaster, upon which a layer of plaster freshly mixed with water to the consistency of thick cream is poured. This upper shell should be at least a quarter of an inch thick and free from bubbles. It should be kept corked, except when the specimens are being put in or removed. Butterflies and large moths should be caught in a net and have the thorax pinched gently between the finger and thumb until the fluttering ceases, when they should be placed in the bottle and left there for several hours. Bees and wasps require more care, and as the scales which fall from the wings and bodies of butterflies and moths are apt to become attached to other specimens, it is as well to keep each kind separately. Bugs, grasshoppers, large hymenoptera, and flies should be pinned through the thorax, passing the pin perpendicular to the long axis of the body. Small parasitic hymenoptera are fastened by thick shellac to paper points, and these are pinned down. Beetles should be pinned through the elytron, or wing cover, near the median line, and at a point about one-fourth the distance from the base to the tip. It is only by attention to such points, as well as by competence in the photographic side of the work that the entomologist-photographer can hope to obtain prints that shall show the specimens to advantage.

* * *

THE HORTICULTURAL SOCIETY AND PHOTOGRAPHY.

An inflated opinion of their own importance is a disease, popularly diagnosed in a briefer phrase, from which public bodies are liable to suffer in times of prosperity. The disease is generally prevalent in its most baneful form when the prosperity is due less to capacity on the part of the suffering body than to gratuitous assistance rendered from outside. The Royal Horticultural Society appears to have suffered in this way lately, for it has passed a minute ordaining that when plants at the shows are photographed for the purpose of block-making, a duplicate block shall be presented to the society. Now, as the horticultural press has been lavish in the past in the assistance it has rendered to the society in supplying blocks gratuitously to illustrate its publications, the ukase is, to say the least of it, ungracious. Photography plays so large a part in spreading accurate knowledge that a well managed society having that end at heart might be expected to foster the art in all ways possible. As it is, so much pressure has been brought to bear upon the society that the secretary has indited a letter explaining away to some extent the obnoxious conditions. By this later reading of the order, duplicate blocks need only be made if specially asked for; the unnecessary compulsory spirit, however, still remains. Is it too much to hope for that an important public body will have sufficient common sense to expunge altogether the offensive regulation?

* * *

SELENOTYPE.

The latest invented printing process is named "Selenotype," and has been worked out by Dr. Sigismund Littman. As implied by its name, selenium is employed for the image, though the principal agent is iron, just as in platinum printing. Normal ferric oxalate solution is used, together with a concentrated solution of selenium dioxide. The picture can be seen after exposure under a negative to sunlight, provided the paper has been freshly prepared; an old paper must be developed with potassium oxalate. After being fixed in very dilute hydrochloric acid, the prints become yellowish-orange in colour, though some have been obtained of a chocolate brown tint. The reader who is acquainted with the chemistry of printing processes may ponder over this new claim, and ask himself how much metallic selenium is there in the finished result. The formation of an image is obviously due to the reduction of ferric oxalate; and by toning such an image with platinum, we should get a platinotype print. Hence by toning with selenium we should apparently get a "selenotype." This does not by any means show that selenium salts are decomposed by light, although it is probable that tellurium salts are sensitive; and, of course, it is now well established that the allied elements in the group that includes molybdenum, tungsten, uranium, and chromium give light sensitive compounds.

* * *

ACETONE SULPHITE.

Some time back the compound known as "acetone sulphite" (really the bisulphite) was brought into notice as a substitute for the ordinarily used sodium sulphite or potassium metabisulphite. A great deal of controversy has now arisen in the German press regarding the efficacy of this substance; and in consequence what is really a very valuable addition to our photographic chemicals is being unmercifully "hammered away at" because of a slight piece of bad policy on the part of its makers. There is no doubt that the quantity of sodium sulphite it is claimed to replace is a little exaggerated, and this we think is the reason of the trouble. Dr. Lüppo-Cramer has contributed a long article to the current number of *Photographische Correspondenz*, in which he states that the relative molecular weights of (1) acetone sulphite and (2) half a molecule of potassium metabisulphite (which corresponds in chemical reaction) are 180 : 111. Hence approximately five parts of acetone sulphite replace three of potassium metabisulphite. The makers claim that it replaces about equal parts, and so indeed appears to be the experience of some workers, but not of others. It is also claimed that acetone sulphite will replace eight to ten times its weight of crystallised sodium sulphite as a preservative of developers; but this Dr. Lüppo-Cramer again contests, and suggests taking equimolecular weights as before. This, however, does not seem to work out quite rightly, as acetone sulphite undoubtedly replaces more than its chemical equivalent of the sodium salt. Its two chief advantages, which we notice Dr. Cramer ignores, are its ready solubility and its power of restraint in development. This latter feature we hope to touch upon at a future date.

* * *

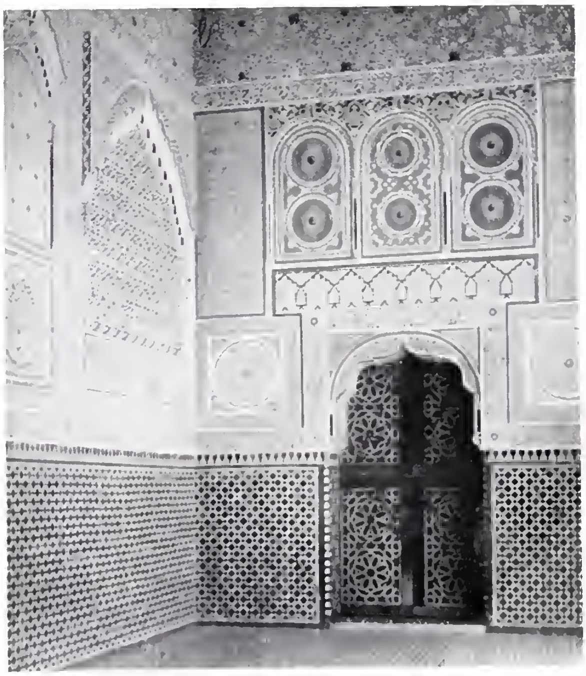
ANONYMOUS CRITICS.

One of Thackeray's characters speaks of "A violet shrinking meanly, when blows the March wind keenly," and there are many anonymous critics whose modesty would be better characterised by the epithet the gifted Miss Bunion chose for herself. When Mr. Dockree started to read his affiliation lecture upon "Photographic Defects" at a society meeting the other night, it was found that some unknown persons had taken upon themselves the uncalled for task of altering the text largely, making wild work of the sense in doing so. Words had been struck out and others interpolated, till even the author of the paper had great difficulty in reading it, and the secretaries of societies upon whom falls the duty of dealing with it in the absence of Mr. Dockree must find themselves completely nonplussed. Apart from the fact that the emendations are of the most puerile kind, it is an act of gross impertinence for those into whose hands the paper falls to attempt such corrections. Mr. Dockree is a master of his subject, but if he knew as little of it as some of his self-elected coadjutors the banalities introduced would still be impertinent. He is responsible for the paper in the shape in which he sent it forth, and he has a right to expect that his views should be read in the form in which he expressed them.

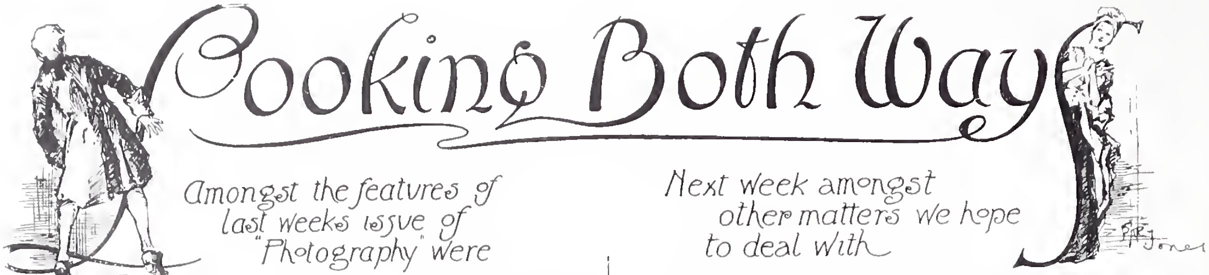
* * *

TO LANTERN SLIDE MAKERS.

Year by year shows no falling off, but rather an increase, in the number of competitors who enter for our annual lantern slide competition, although there are many who hold that slide-making as a recreation is on the decline. The belief, we think, is quite a mistaken one. Certainly every year shows a distinct, if only small, advance in the work sent in to our competitions, the regulations of which we announce amongst our advertisements this week. We hope that this year the home portraiture class will be well supported. It is a side of amateur photography which hardly receives so much attention as does the landscape side. This latter we cater for in a number of classes. When we announced our slide competition last year, we expressed the hope that more might be made of the flowers and foliage and natural history subject classes, in the former especially, in the direction of pictorial arrangement and treatment. Something more might be done, we said, than the mere photographing of a few flowers put anyhow in a vase. The response to our suggestion was an encouraging one, but more can still be done, and we hope will be done, in this direction. It remains for us to point out that all entries must be in our hands by October 24th, and that slides which are unsuccessful will only be returned if an addressed stamped label is enclosed with them.



Moorish interior decoration. "Mustibezah" work (see page 68.)



Looking Both Ways

Amongst the features of last weeks issue of "Photography" were

"An Italian Holiday with a Camera," by Ernest Marriage.

A letter from Mr. A. C. Ponton on the subject of "Radiant Energy."

The first of a series of articles on "Studio Work," by David Blount.

"Traps and Pitfalls for Beginners in Photography."

"The Essential Requirements of a Zoological Photograph," by Douglas English.

Photographic communications to the Congress of Applied Chemistry.

Next week amongst other matters we hope to deal with

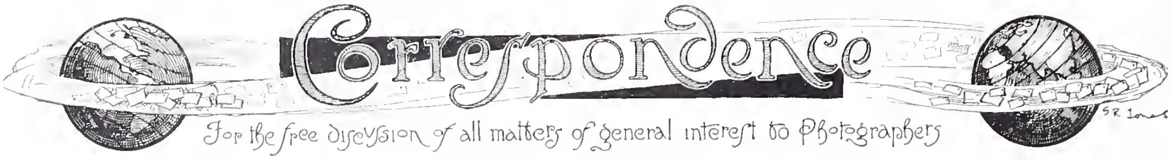
An account of the child pictures of Mrs. Barton. With several illustrations.

"Chemical and Physical News," by Professor Fergus J. McInnes.

The third and concluding article on "Studio Work," by David Blount. Illustrated.

A further instalment of the series entitled "Traps and Pitfalls for Beginners in Photography."

"Studio Notes and Jottings" (crowded out of this issue), by "Professional."



Correspondence

For the free discussion of all matters of general interest to Photographers

The Editor is not responsible for the opinions of his correspondents.

A CORRECTION.

Sir, May I be allowed to correct two printer's errors in "The Essential Requirements of a Zoological Photograph," the latter of which may cause some confusion. In the opening paragraph, for "two hundred" one hundred should be read. On page 46 the block at the bottom is of a dormouse, not of a red vole. There are three blocks, not four, of the red vole, two being on page 46, and one upon the title of the article. Yours, etc.,

DOUGLAS ENGLISH

The Week's Meetings

THURSDAY, JULY 16TH

London N.W. Self-portraiture Competition and Criticism of Prints.
Watford. Informal Discussion and Consideration of Members' Work.
Handsworth. The Composition of a Picture. W. J. Morgan.

SATURDAY, JULY 18TH.

EXCURSIONS.

North Middlesex. Stanstead Abbots.
Hackney. Zoological Gardens.
Croydon Nat. Boxhill, Denbies Park, and Ranmore.
Hull. Swine.
Keighley and District. Gargrave and Rylstone.
Nelson. Roughlee and Barley.
Halifax. Saltaire and Shipley Glen.
Bradford. Hardcastle Crags.
Cricklewood. Ruislip and Ickenham.
Batley. Crigglestone.
Catford and Forest Hill. Rochester.
London W. Stanmore Common.
Woolwich. Dartford Marshes.
Barrow Nat. Cartmel Priory and Aynsome.
Everton. Excursion.

MONDAY, JULY 20TH.

South London Faking the Negative. E. W. Taylor.
Southampton C.C. Retouching M. O'Connor.
Bradford. Indoor Meeting.
Walthamstow Ordinary Meeting.

TUESDAY, JULY 21ST

Nelson. An Evening with Members' Failures.
Hackney. Exhibition of Photographs of Broxbourne Sports.

WEDNESDAY, JULY 22ND.

Leeds C.C. Exhibition of Photographs taken at Excursions.
Cricklewood. Meeting.
North Middlesex. Process Work. Mr. Haider.

THURSDAY, JULY 23RD.

Blackburn. Excursion to Ribchester.
Watford. Chat on Winter Programme.
Everton. Half-day Excursion.

SATURDAY, JULY 25TH.

EXCURSIONS.

South London. Dartford and Stone.
Boro. Poly. Totteridge.
Croydon Nat. Three Bridges for Worth.
Brentford. Wraysbury.
Ilford. Waltham Abbey.
Southampton C.C. Southampton Common.
Bristol. Clevedon.
Walthamstow. Stone Church and Greenhithe.
Dewsbury. Bolton Abbey.
Blackburn. Ribchester.
Barrow Nat. Torver.
Ashton-under-Lyne. Alderley.

Societies will have their meetings announced here if the syllabus is sent to us at the beginning of the Session, or from time to time

KODAK, LTD. Abandonment of the Preferential Discount Policy.

THE photographic trade this week has been circularised by Kodak, Ltd., in the form given below, from which it will be seen that the company has abandoned its policy of giving a "preferential discount" to those dealers who were able to make a declaration that during a given time they had supplied no other competing roll film apparatus or material. The circular does not come quite as a surprise, as it has been known that the company was taking the opinion of dealers upon the subject; but the disappearance of a disturbing factor in the world of photographic commerce is none the less welcome because not altogether unexpected.

The circular itself reads as follows:

43, Clerkenwell Road, London, E.C.,
July 9th, 1903.

Dear Sir,—We beg to inform you that we have recently taken a vote of our dealer customers who have in the past availed themselves of our best terms, as to whether or not, after the fair trial which has been given it, they are satisfied with the system of preferential discounts and desire its continuance.

The result of the vote demonstrates that this policy is contrary to the wishes of a considerable proportion of our trade customers. As it has never been our intention to enforce this policy under such circumstances, we shall at once withdraw the present terms, and our discounts to all dealers alike from July 10th will be those set out on the enclosed discount sheet.

In re-arranging our terms, we take the opportunity of simplifying settlement and quantity discounts, which in recent years have become very complex throughout the photographic trade. In future the whole of our discounts, with the exception of a cash or settlement discount of 2½ per cent., will be given right off the invoice.

In subordinating our views and relinquishing what we have believed, and do still believe, to be an important adjunct to the permanent price protection policy, we wish it to be understood that the alteration of conditions will not diminish our enthusiasm in continued endeavour to make the trading in our goods profitable to all our customers.

Yours faithfully,
KODAK, LTD.

PHOTOGRAPHING THE OSCILLATIONS OF AN ELECTRIC SPARK.

By C. J. Watson.

[We are indebted to our interesting and practical contemporary "The Model Engineer and Electrician," for permission to quote this article from its pages and for the loan of the necessary blocks.—Ed.]

NOT the least interesting of the many wonderful phenomena accompanying the electric spark is the fact that what appears to be an instantaneous occurrence really consists of a series of discharges alternating in direction. Henry, the American physicist, was the first (in 1842) to suggest that this was the case, and Helmholtz (in 1847) adduced fresh arguments to support this view. In 1853 William Thomson (now Lord Kelvin) investigated the matter mathematically, and gave the formula for the rapidity of the oscillations. In 1857 Feddersen proved experimentally by various means that the theoretical idea was correct.

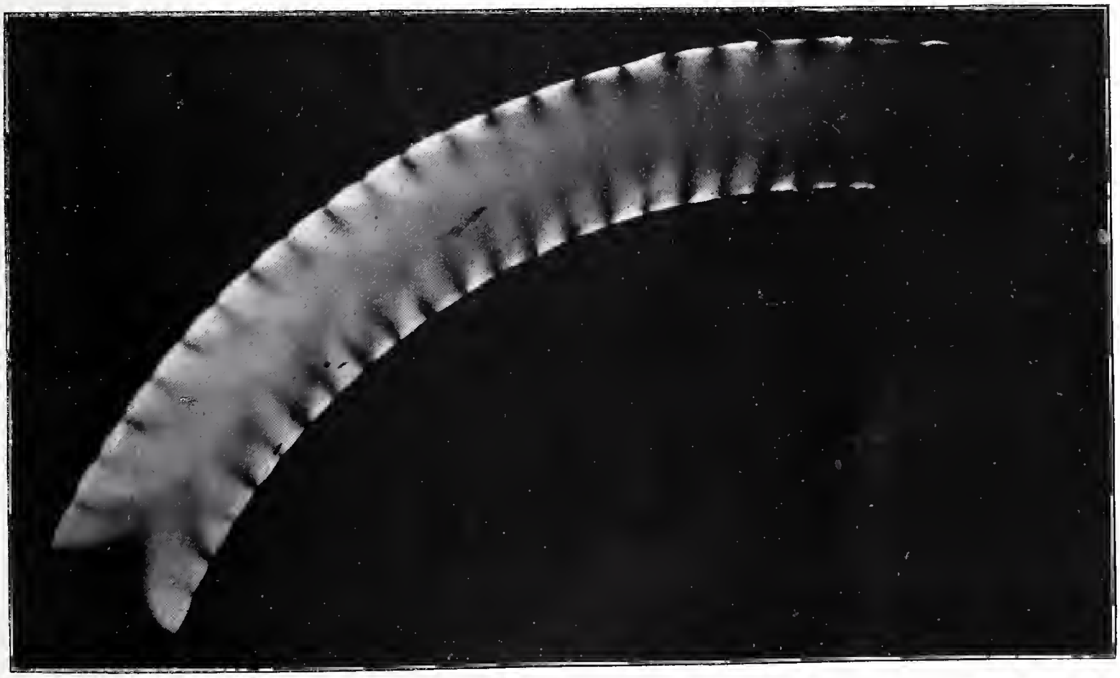
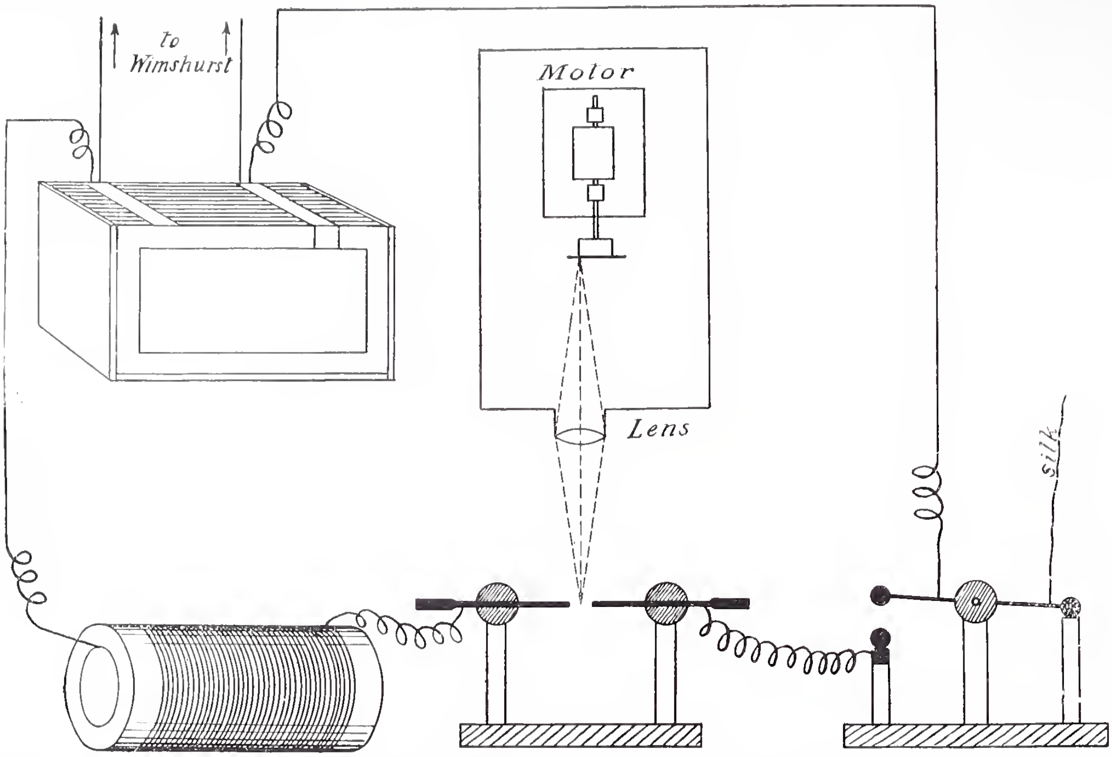


Fig. 1.

One of his methods, and one which can be easily repeated, is to observe the illumination of a vacuum tube. If the discharge from a 1in. spark induction coil be sent direct through the tube, it will be found that the end which is connected with the negative pole of the coil will be filled with a violet light, whilst the other is comparatively dark. If, however, a Leyden jar be attached to the terminals of the coil, and a coil of wire and a spark gap be interposed in the circuit containing the vacuum tube, both its ends will be found to be filled with violet light, showing that each electrode is in turn the negative pole. The accompanying photograph (fig. 2) shows tubes taken under these two conditions. It will be seen that in the tube, which received the simple discharge direct from the coil, the bulb at one end is practically invisible, whilst with the other tube the two ends are very nearly equally illuminated. The exposure was the same in both cases—viz., thirty seconds with a portrait lens.

A still more instructive method, however, is to photograph an electric spark in such a way as to spread out its image. To do this Feddersen used a rotating mirror, which threw a picture of the spark upon the photographic plate, thus forming a riband of light, which showed the intermittent character of the discharge. For this purpose it is necessary to have a metallic mirror (without any glass in front) ground to a true surface—either plane or concave. This is not easy to obtain, and, moreover, it is difficult to cause the spark to take place when the mirror is at the



proper angle. A simpler method is to focus the image on to a rapid photographic plate fixed on the end of an electric motor, so that it revolves in its own plane. The plate should be cut to a circular shape of 3in. diameter, and held by metallic clips screwed on to a wooden disc fastened on the axle, the image being formed near the edge of the plate, so that the line of the spark is that of the radius of the plate. A rapid portrait or lantern lens should be used, and the motor should make about forty turns per second. A rough box can easily be made to serve as a camera to keep out superfluous light, as, of course, the experiment would be conducted in a dark room.

An old proverb says that we must first catch our hare and then cook it, and some instructions will be necessary to get a spark, which is oscillatory.

The condenser used in the production of the photograph No. 1 was composed of twenty plates about $\frac{1}{10}$in. thick (16 ozs. window glass), 24in. by 12in. These were coated on both sides with tinfoil, to within 2in. of the edges, and the bare surfaces well coated with shellac varnish. The plates were held vertically by their ends in a wooden frame, so that they were separated from one another by about $\frac{1}{2}$in., experience having shown that if they were simply laid upon one another, a spark frequently passed round the edges of the plates, fracturing several of them in so doing. The coatings were appropriately connected by strips of tinfoil, care being taken that the sheets of foil facing each other should be connected together.

The inductance of the discharge circuit was obtained by a quarter-mile of No. 20 copper wire, triple cotton covered and paraffined, made into a coil. A cardboard cylinder 12in. long and 6in. diameter, was made, and the wire wound upon it, every layer being separated from the next by about twelve sheets of paraffined brown paper.

The condenser was charged by a 22in. plate Wimshurst machine, driven by an electric motor, and although only a $\frac{3}{8}$in. spark was used, it took two minutes to charge up the condenser to the sparking point. In order to hinder leakage, it is advisable to have a contact key, which is only depressed when it is considered that the condenser is charged. This key can be an oscillating beam mounted on a glass axle, and being heavier at the one end, is worked by pulling upwards a silk thread attached to it. The brightness of the spark increases with the volatility of the terminals. I have obtained the best results from letting the spark take place between two pieces of magnesium riband.

Under the given conditions the spark usually lasts 1-200th part of a second, making during this time thirty semi-oscillations, though, in the specimen given, only twenty-five are visible. It follows that the time of a complete oscillation is 1-3000th part of a second.

If the electric discharge, instead of being passed through the coil of wire, be sent through a tube of water 2in. long and $\frac{1}{4}$in. diameter, the oscillations will be found to be effectually damped out, the photographic image showing a continuous band gradually dying away. If neither is used the spark will last such a short time that the rotation of the plate will produce no effect; it might as well be standing still. Even a couple of half-gallon Leyden jars, coupled in parallel, will, with the coil, yield evidences of the oscillatory nature of the spark. Also a 2in. spark induction coil may be substituted for the Wimshurst, care being taken to let only one spark pass, but the spark will then be very much shorter—not above $\frac{1}{10}$in.

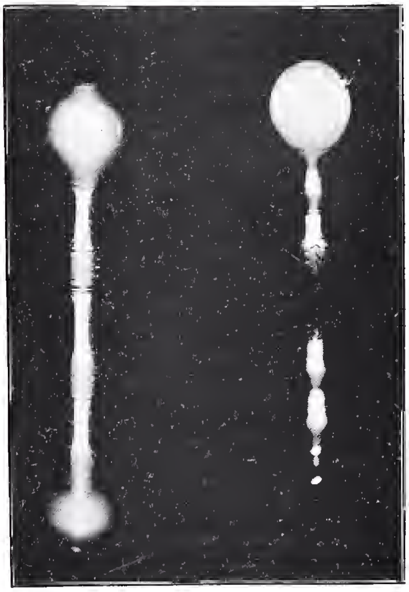


Fig. 2.

The circular photographic plates may be cut from quarter plates by means of a small wooden turntable, having over it a stop, against which to rest the cutting diamond. After making a few straight cuts around the circle, the superfluous parts of the plate can be broken off by the pliers. The cuts should be made on the uncoated side.

THE LATE EDWARD L. WILSON.

EDWARD L. Wilson, editor and publisher of *Wilson's Photographic Magazine*, New York, died at Vineland, N.J., on June 23rd. By his death American photographic journalism loses one of its pioneers, one who was prominently associated with its progress during the last forty years, and whose whole life was devoted to the practical helping of those who follow photography as a profession.

Edward L. Wilson was born at Flemington, New Jersey, in 1838, and received his education at the local academy. He began his work in photography at Philadelphia in the early sixties, being associated with Gutekunst till, in 1864, he began the publication of *The Philadelphia Photographer*, then the only photographic magazine in America. At that time photography was in a transitional state, hampered by innumerable restrictions and abuses, infested by a class of men, who, taking advantage of the little practical information available concerning the early processes, travelled the country over and sold so-called "secret processes" and "the right to use" certain formulæ. Photographers were also struggling under the burden of a stamp tax upon every photograph made, adopted as a means of revenue during the Civil War. The carbon patent and the photo-lithographic patents were also among the troubles of these early years. These abuses Mr. Wilson from the beginning endeavoured to remedy, and with complete success.

His first service was to secure a modification of the copyright law in 1831, so as to include photographs. In 1865 he organised and led the opposition of the fraternity to the so-called "Bromide Patent." This fight prevailed during several years, and eventually resulted in the upsetting of the patent, by which decision photographers were freed from a grievous tax. The stamp law was modified in 1866, and completely removed in 1868. In this year Mr. Wilson was foremost amongst those who organised the National Photographic Association, of which the present Photographers' Association of America is the successor. Of the old N.P.A., Mr. Wilson was the permanent secretary for many years, devoting to its service considerable personal labour and resources. The first exhibition and convention of the association was held at Boston in June, 1869.

Early in this year the photographers united under Mr. Wilson to oppose the issuing of a patent controlling all methods of saving wastes from photographic solutions. The validity of this patent was challenged, and during the progress of the legal battle, which covered a number of years, Mr. Wilson was arrested in New York. Eventually the patent was overthrown, and Mr. Wilson received at the Cleveland-Ohio Convention of 1870 the congratulations of the fraternity upon his victory.

Mr. Wilson was appointed by the city of Philadelphia as a delegate to visit the Vienna Exposition in 1873, to awaken interest in Europe for the coming Centennial Exposition of 1876, held at Philadelphia. The photographic concession of the exhibition was placed in the hands of Mr. Wilson and the late W. Irving Adams, under the name of the Centennial Photographic Co., and secured a complete photographic record of the exhibition from its inception to its close, of a complete set of prints of which we believe that the British Government is the sole possessor, although many of the negatives are now deposited in the Commercial Museum at Philadelphia. Later he also had charge of the photographic department of the Cotton Exposition held in New Orleans.

In 1885 the name of *The Philadelphia Photographer* was changed to *Wilson's Photographic Magazine*, and the office of publication removed to New York, where it was published as a semi-monthly, and later as a monthly magazine.

During the years 1881 and 1893 Mr. Wilson wrote and published text-books on photography, which have enjoyed a large sale in America. Of these "Wilson's Cyclopædic Photography," known to some of our readers, may be mentioned. After the removal of the magazine to New York Mr. Wilson steadily continued his labours as a photographic journalist until his death.

One who knew him well says Mr. Wilson had an enormous capacity for work. A man of high ideals and sterling integrity, he had a lovable personality, and possessed in an unusual degree the faculty of attracting the enthusiastic support of those with and for whom he worked during his long life

The following specification of patents relating to photography have been published, and copies may be purchased at an uniform price of 8d., at the Patent Office Sale Branch, 25, Southampton Buildings, London, W.C. The price of the specifications includes postage to any part of the United Kingdom. The additional postage to foreign countries is usually ½d. per specification. Postage stamps must not be sent in payment of any amount exceeding 11d. In ordering, the name of the patentee and both the number and year of the patent must be given.

1902.

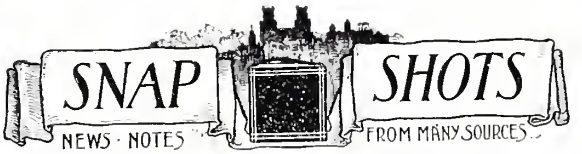
17,911.—Meek. Developing apparatus.

1903.

613.—Marriott. Printing frames.
7,472.—White. Photographic prints.
9,572.—Wright. Shutters.

The Kodak Amateur Competition.

Kodak, Ltd., are organising an amateur competition for photographs taken upon their materials and for roll films developed in the Kodak Daylight developing machine. £1,000 will be distributed in cash prizes to the winners, and the sum is to be divided as follows: £500 for winners in the competition for pictures taken on N.C. (non-curling) films, £300 for pictures on Kodoid plates, and £200 for roll films developed in the developing machine. The photographs and the roll films must be sent in between November 1st and December 31st. The pictures will be exhibited in London at the Kodak Gallery, 40, Strand, London, W.C., and the date of the exhibition will be announced later. In the competition for pictures taken on roll films there will be four classes with prizes in three of them ranging from £20 downward, and in the fourth from £10 downward. In the Kodoid plates competition there are two classes, in one of which the orthochromatic qualities of the plate must be shown. The prizes range from £20 downward. In the developing machine competition there are also two classes with prizes from £20 downwards.



ORTHOCHROMATIC PHOTOGRAPHY, illustrated by diagrams and tests, was dealt with at the South London Photographic Society by Mr. W. E. Edwards.

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"WOODWORK JOINTS," published by Messrs. Dawbarn and Ward at sixpence, has been written by an expert, and should be in the hands of all amateur woodworkers.

× × × ×

A PHOTOGRAPHIC EXCURSION to Switzerland and the Bernese Oberland is being organised to take place from July 25th to August 11th by Mr. W. Slater, whose address is now 68, Longhurst Road, Hither Green.

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THE 1903 CATALOGUE issued by Mr. J. Lizars, of 101 and 107, Buchanan Street, Glasgow, contains particulars and prices of practically every piece of apparatus and material that the photographer can desire. A feature of the book is the number of collotype reproductions from photographs which it contains.

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A USEFUL LITTLE HANDBOOK for free distribution is the "Agfa Handbook of Photographic Articles," which can be obtained without charge from dealers, who are supplied by the British representatives of the publishers (Actien Gesellshaft fur Anilin Fabrikation, Berlin, So 36), Charles Zimmermann and Co., of 9 and 10, St. Mary-at-Hill, London, E.C.

SNAP SHOTS.

The Leeds Camera Club was the guest of the Hull Photographic Society on the 11th inst. A visit was paid to the Docks and to the ss. Pectan.

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Mr. J. Ludlam, of 115, Grasmere Street, Leicester, has taken up the secretaryship of the Hand Camera Portfolio Club, and asks us to state that there are vacancies in the club for several good workers.

× × × ×

The illustrated price list issued by Messrs. Aldis Bros., of Old Grange Road, Birmingham, contains a mass of information as to the lenses made by that firm, and should be in the hands of every photographer who desires to purchase a lens giving fine definition at f/6.

× × × ×

Those who intend to pass their holidays on the Continent should make a point of obtaining a copy of the Great Eastern Railway Company's new illustrated booklet, "Holidays in Belgium and the Ardennes," written by Percy Lindley.

× × × ×

The annual balance sheet of the Halifax Camera Club discloses a satisfactory state of affairs. The revenues of the club have been expended in what appears to be a judicious manner for the benefit of the members, and leave a small working balance in hand.

× × × ×

The Great Northern Railway of Ireland's Tourist and Excursion Programme contains several useful maps, a well written and interesting account of the country through which the line passes, interspersed with historical and legendary reminiscences. It can be obtained on application to the manager of the Great Northern Railway, Dublin.

× × × ×

Photographers' brains. A writer in a contemporary recently gave some curious statistics upon the weight of brains of people following various trades and professions. The average weight of the brain for different occupations he gives as from 1,410 to 1,440 for workmen, 1,468 for business men, professional musicians, and photographers, and 1,500 for medical men and persons whose calling supposes a university education. Persons connected with the production and sale of alcoholic liquors have, as a rule, light brains.

× × × ×

Mountain photography is a subject which is always fascinating, and one of the best of the few books devoted to it may safely be said to be that of Dr. Anton Mazel, "Künstlerische Gebirgs Photographie" (published by G. Schmidt, Berlin, 4s.). There are a number of delightful half-tone full page illustrations, and the subject matter treats of everything that could be connected with the photographing of mountain scenery. The author leaves little doubt that orthochromatic plates should be used, and pyro, hydroquinone, and adurol are the developers recommended for mountain work. There is certainly very delicate detail in all Dr. Mazel's pictures, and the use of a yellow screen seems to have enabled him to secure good cloud effects in nearly every instance.

× × × ×

The third San Francisco Photographic Salon will be held at the Mark Hopkins Institute of Art for two weeks, opening on October 8th. English contributors may send their pictures either mounted, or mounted and matted, and the management will mount and glaze those accepted, and return the entire contributions to the owner free of charge. With this exception all transportation charges must be paid by the exhibitors. No prizes will be awarded nor will any fees be demanded of exhibitors. Pictures must be entirely the work of the exhibitor. Those bearing the name of firms will not be accepted. Contributors may submit as many pictures as they desire, but not more than twelve will be accepted from one individual. The title, exhibitor's name and address, and, if for sale, the price, must be written on the label provided and attached to the back of the picture. Nothing must appear on the front of the picture except the title and the author's name. Pictures submitted must be addressed as above and delivered at the Institute not later than September 15th. Communications should be addressed to the Executive Committee at 819, Market Street, San Francisco.

The still life competition organised by the Southampton Camera Club resulted in the first place being taken by M. O'Connor, and the second by S. G. Kimber.

× × × ×

The Isle of Wight Photographic Society announce an open exhibition for October 21st and 22nd. Full particulars can be obtained from the honorary secretary, J. Howard Burgess, 53, Pyle Street, Newport, Isle of Wight.

× × × ×

The Worcestershire Photographic Survey Society offer two series of three prizes to members and non-members of the society for photographs of architectural work not less than 150 years old in the county. Particulars can be had from the honorary secretaries at the Victoria Institute, Worcester.

× × × ×

The Hotel and Tourist Association of Ireland has published a list of hotels and restaurants pledged not to make excessive charges to visitors during the Royal visit to Ireland. The list may be obtained from Edwin Liller, the secretary to the association, at 7, Lower Abbey Street, Dublin.

× × × ×

A fourteen miles walking match was indulged in by the employees of Messrs. George Houghton and Sons, Ltd., on the 4th inst. The start was made from East Finchley and the finish Stanmore. Eight prizes were given, the shortest time being made by C. Bunnin, who covered the distance in two hours twenty-six minutes.

× × × ×

The catalogue of the Westminster Photographic Exchange, of 119, Victoria Street, Westminster, will be sent post free to our readers on application. Illustrated descriptions and prices of all goods used by photographers and lanternists are given, and the Exchange makes a feature of dealing in high class second hand apparatus.

× × × ×

Thornton, Ltd., was registered on the 24th ult., with a capital of £1,000 in £1 shares, to carry on the business of a photographer, photographic publisher, etc., Altrincham, owned by Edith M. Thornton. There is no initial public, and the company was registered without articles of association. The registered office is at 40, Brazenose Street, Manchester.

× × × ×

A printing device employed by a professional printer is described in *Camera Craft*. This worker keeps a ball of fresh putty handy and uses it to obscure such portions of a negative as he may wish to hold back in the printing. It is simply dabbed on the glass side, leaving a surface very like ground-glass as far as light obscuring qualities are concerned. It is easily removable from such portions as it may overlap where not wanted, allowing of the following of definite outlines as well as permitting of a soft blending of the edges where this is thought desirable.

× × × ×

The 1903 catalogue, issued by Messrs. G. Houghton and Sons, of 88 and 89, High Holborn, London, W.C., is a mammoth production of some nine hundred pages, with twelve hundred illustrations, and is sold at one shilling. It is accompanied by a supplementary list of roll film cameras and roll films, and by a smaller condensed list, which will be sent post free on application. The complete list has been thoroughly revised, and contains particulars of all novel apparatus and accessories. The condensed list, which runs to seventy-two pages, embraces particulars of cameras and materials in daily demand.

× × × ×

The Bausch and Lomb 20th century photographic competition closes on October 1st, as most of our readers are aware. Three thousand dollars are offered as prizes in the different classes, with one grand prize of three hundred dollars. Messrs. A. E. Staley and Co., of 35, Aldermanbury, London, E.C., from whom all particulars may be obtained, receive exhibits and forward them to the Bausch and Lomb Optical Co., U.S.A. All photographs taken with Bausch and Lomb lenses or with other lenses fitted with shutters made by Bausch and Lomb are eligible, and the judges are Messrs. Rudolph Eickemeyer, jun., C. Yarnall Abbott, and William B. Dyer.

WELLS CATHEDRAL. By Frederick H. Evans.

SPECIAL TO "PHOTOGRAPHY."

WITH our patient editor's permission I am this week offering readers of *Photography* yet another, and I hope a final, version of a subject I have many times set my camera at, namely, the famous stairs in Wells Cathedral leading to the Chapter House. And to make this new print more interesting I am permitted to add a few other illustrations of the local position and use of this unique stairway.

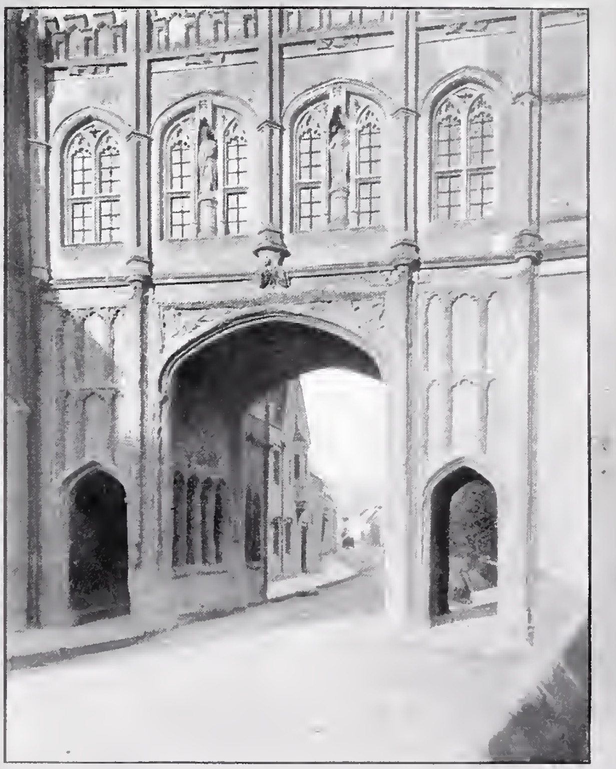
I was not content with the version previously reproduced in *Photography:* neither technically nor artistically had I treated my subject well enough; so, finding myself recently within a few miles of the cathedral, I could not resist a further trial of its difficulties. At this time I meant trying to convey, if possible, a real idea, not only of the superb swirl round of the steps up and into the Chapter House, but a more actual sense of their height and steepness as they go straight up to the corridor of the bridge.

To do this meant placing the camera on the stairs themselves, and, by use of a 19in. Zeiss anastigmat on a 10in. by 8in. plate, I succeeded in getting a negative of this not-too-easy subject (see the front page) that has contented me more than I thought possible.

The steps now rise steeply before one, and the extraordinary wear in the top portions, leading to the corridor, is now shown just as it appeals to the eye in the original subject, a vertiable sea of steps. The passing over them of hundreds of footsteps during the many years the stair has served its purpose have worn them into a semblance of broken waves, low-beating on a placid shore. The beautiful curve of the steps on the right as they rise to the height of the Chapter House floor, is for all the world like the surge of a great wave that will presently break and subside into smaller ones like those at the top of the picture. It is one of the most imaginative lines it has been my good fortune to try and depict, this superb mounting of the steps on the right.

I was doubtful for a moment if the edges of these top right-hand steps would "detach" so as to keep the sense of their being steps, steep and apparently untreadable; but they do so sufficiently, and perhaps their vagueness of outline at this point suggests their steepness better, and the more forcibly contrasts with the darkly-shadowed bottom steps.

The level portion at the top, just beyond the pointed arch, is the corridor of the bridge that connects the Vicars' Close with the cathedral. One view on page 67 shows the north side of the cathedral with this bridge and the Chapter House, with the staircase in front of it; the view below shows the centre portion of this beautiful bridge, with its centre and smaller side arches: the windows light the corridor referred to. Going through this arch and turning backwards we see the other—the eastward side of the bridge (page 71). On its right is the entrance from the road into the Vicars' Close. A view on page 67 affords a pleasant peep through this entrance arch into the delightfully quaint close, with its charming and comfortable dwellings, the homes of the vicars choral and the theological students. Going through this arch and looking back-



wards, one sees the view at the foot of this page, which shows the relative position of close and cathedral. The tower at the end has a stairway leading to the corridor bridging the street between it and the cathedral; this was built that the vicars choral might get from their houses into the cathedral without coming into the open street of the town.

Entrance to the Vicars' Close, Wells.

The picture on the opposite page is a version I made some little time ago. after the one already reproduced in this journal; and in this I specially attempted to show the steps in their immediate flight into the Chapter House. I purposely made this in a different lighting. as I was trying for a different effect. I wanted to lead the eye and attention straight to the Chapter House. realising the steps only as a means of getting there. Therefore, the focal point of attention in this picture is the window and the groining of the Chapter House. But one quite sufficiently feels the mounting of the steps and their beautiful curve round. The inclusion of the pier on the right gives a restful finish to the radiating lines of the steps. By choosing an hour when the chief strength of the light was in the Chapter House rather than on the stairway. the value and effect of the light to which attention was mainly to be drawn was enforced and emphasised. It also affords a fascinating contrast to the rich gloom of the shadows outside it.

Altogether. this stairway is an uniquely beautiful example of architectural genius.

Paget Prize Collodio-chloride Printing-out Paper.

Time was when collodio-chloride paper had an unenviable reputation for cracking and chipping, much in the same way as albumenised paper occasionally did. All that is now a thing of the past; modern methods have been so improved that collodio-chloride paper is now as flexible as the gelatino-chloride printing-out paper. It has also the merit of being entirely free from tackiness, and is in consequence much easier for the inexperienced worker to mount.

North side of Wells Cathedral, with the Bridge and Chapter House.

The Paget Prize matt paper, when properly worked, gives results comparable only in appearance with platinum prints, and as all the operations are remarkably simple those who find their prints unsatisfactory must put the blame either upon the negatives they print from or to some carelessness in manipulation. Printing should be carried distinctly farther than the finished print should be, and if there are any dark shadows these should be slightly bronzed.

Previous to toning, the prints should be washed in several changes of water thoroughly to get rid of the free silver, or trouble will ensue later on. The toning may be with gold alone, using the formula issued with the glossy paper, ammonium sulphocyanide thirty grains, gold chloride two grains. water sixteen ounces, but the finest results are obtained by first toning in gold and then in platinum. The formulæ for these baths are for the gold bath stock solution A, gold chloride fifteen grains, water fifteen ounces; solution B, sodium bicarbonate one hundred and twenty grains, water fifteen ounces. For use, one part of A, one part of B, and twenty-eight parts of water are taken, and as the mixture does not keep only enough for present use should be made up.

The prints are to be toned to a chocolate or reddish-purple colour, they are then washed for five minutes and transferred to the platinum bath made as follows: Potassium chloroplatinite fifteen grains, dilute phosphoric acid (acid phosph. dil. B.P.) three ounces, water to make sixty ounces, in which they are to remain till quite black.

Paget Collodio-chloride is an ideal product for amateur and professional alike, whether we consider the beauty of the results or the ease with which those results can be obtained.

The Vicars' Close, Wells.

A PHOTOGRAPHER IN SUNSET LAND

Written & Illustrated by JOHN H. AVERY,
Court Photographer to His Sherefian Majesty
Mulai Abdul Aziz, Sultan of Morocco.

III.—A MOORISH HOUSE.

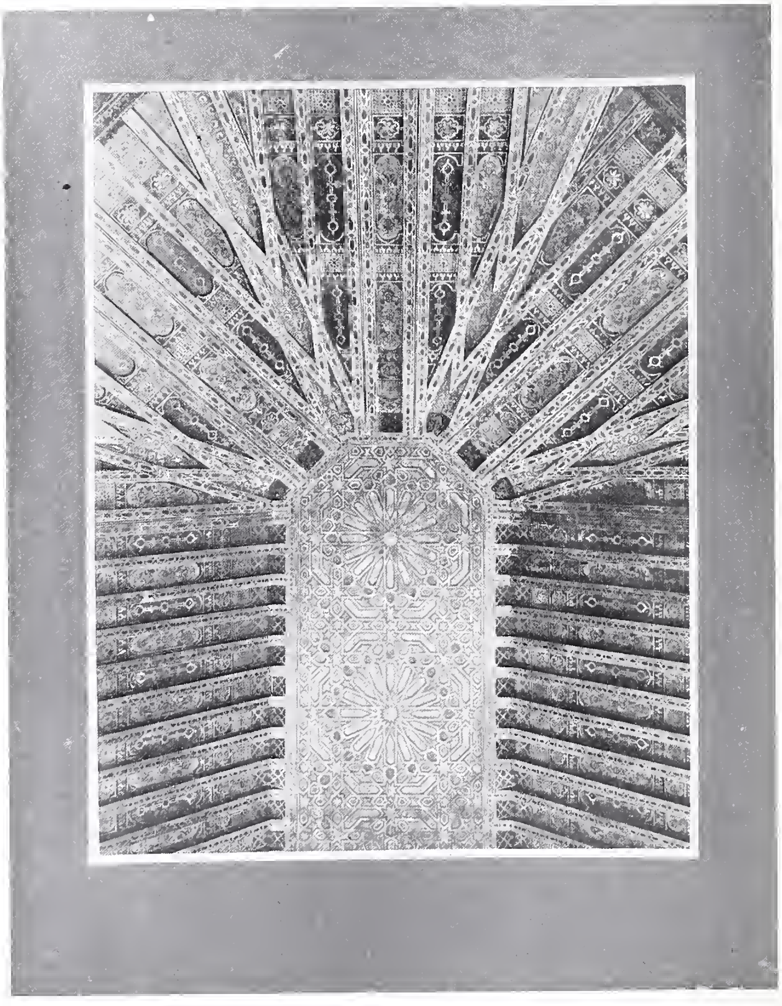
OWING to the extreme difficulty experienced by Europeans in obtaining access to the Moorish houses, they always excite considerable interest and curiosity. Each is so built that by no possible chance can the passer by obtain a glimpse of its interior beauty, and by its outward appearance it would be described as a barn. The entrance from the narrow stuffy street to the better class of house is effected by a winding passage, barred with either two or three doors, each door having several enormous bolts, and kept by a guard or slave. The bolts are so placed on the door that they can be closed from either side, and, when shot home, locked with a key.

On entering, one finds one's self in a courtyard or "Patio," along the four sides of which is erected the house. This "Patio" is covered with tiles, and contains one or more fountains, according to its size.

In Fez, contrary to the other towns, most of the houses consist of several storeys, each being provided with a light verandah running round it, and connecting the rooms. All the windows and doors open out into the courtyard, the window openings in the upper storeys being covered with close trellisswork. These rooms are always set apart for the ladies' quarters or harem. The rooms are long, narrow, and very lofty, the length being as a rule in the proportion of three feet to one foot of width, and the furnishing denotes the instinct of camp life—all townsmen being descended from the nomadic tribes that wander over the face of the country.

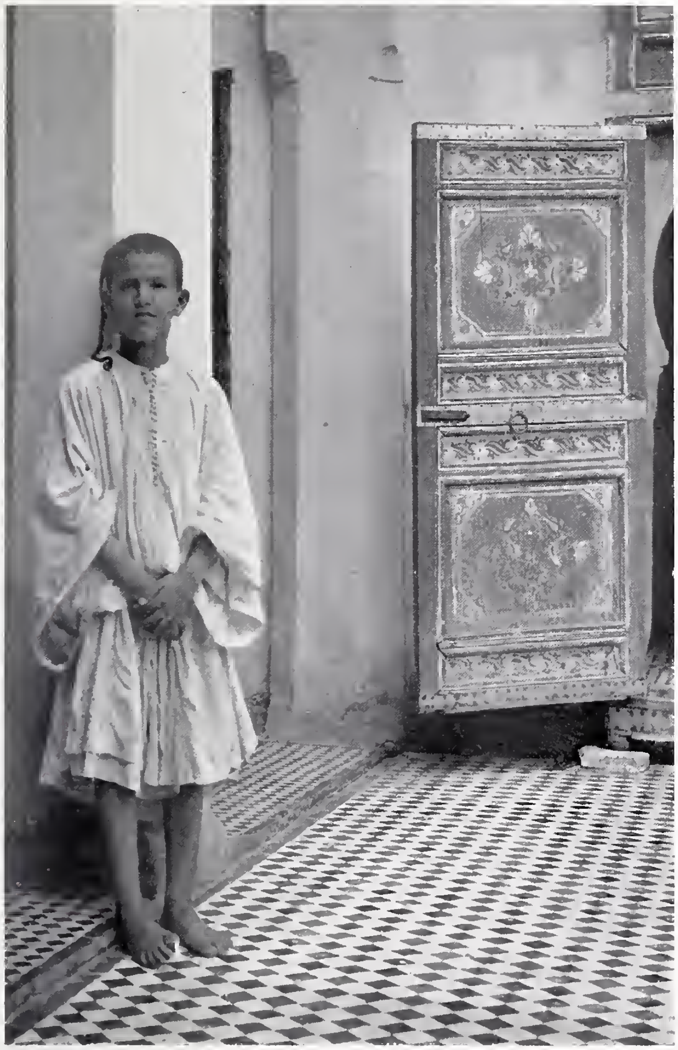
The furniture consists of a long carpet, bed, and cushions, the latter being ranged round the sides of the room. The wall is covered by an "Haite," or silk hanging, extending upward to about five feet. This "Haite" is always of an Arabesque design, somewhat similar to those of Moorish arches, and is composed of silks, which are a mixture of particularly vivid colours. From the hanging to the roof the walls are plain whitewash; or, if a very fine house, are covered with "Mustibezah" work.

The roofs are slightly vaulted, and of great beauty.



Portion of a fine roof in a Fez house

Although they give one the idea of being elaborately carved they are not really so, being made up of numerous pieces of wood, each cut to one particular shape. These are bound together and locked with a key piece, in the same way as an arch is locked with the aid of a key stone. The whole is then painted in a variety of geometrical figures, which have a most bewildering effect on the spectator's eyesight.



A Fez boy of the better class.

Each room has two windows and a centre arch, which is closed by two folding doors, which again have smaller doors, so that it is possible to enter or leave without throwing back the larger ones. In summer, when the occupant wishes to be at rest, and it is too hot to close the doors, a cretonne curtain is let down, and until it is again lifted no other member of the household would think of venturing inside.

The rooms have no fireplaces, and during the winter are warmed by the aid of a charcoal brazier, which is placed near to the doors so that the fumes shall not cause discomfort to the occupants.

The tiling and the "Mustibezah" work are peculiar to Fez. Nowhere else can such beautiful work be seen. Should some of the richer Moors require this work in other parts of the country, it is necessary to send to Fez both for materials and for workmen. The tiles are all baked in 4in. squares, and are made of some ten or twelve colours. After baking they are cut into the various patterns required. Many of these are most intricate, and closely resemble fine mosaic. In laying the more intricate patterns, the work is executed upside down, the design being worked out on a wooden tray about three inches in depth. When completed, the tray is filled with cement, and afterwards the whole thing is turned over and placed in position.

The "Mustibezah" or cut plaster work is made as follows: A thick layer of very fine plaster, called "Gibs," is placed on the wall by the aid of trowels to the depth of about one and a half inches. When dry the patterns (always geometrical) are cut out with the aid of one or two small files, the whole design when finished being painted in various colours to coincide with the patterns. An illustration on another page shows a portion of a room covered with this work, although it does not by any means give a true idea of its beauty; still, even in the photograph, the effect will be seeen to be not at all bad.

Owing to the fact that the ladies of the house are not allowed to be seen by any other man than their lord and master, all domestic offices are situated away from the house proper. Such work as is found necessary to be done inside is executed either by women slaves or by small boys, and, in the event of the master going out, the house is completely closed, and the whole place devoted to the ladies.

The keys of the house are usually placed in the charge of the favourite boy slave, who is completely trusted in every way. When the owner is at home, or is receiving guests, the ladies are banished to their own quarters, whence they can see and hear without being observed themselves.

All the houses have flat roofs, with a wall some four to six feet high running round, and from four p.m. until sunset the roofs are given over to the ladies exclusively, who can then walk about and take the fresh air without being seen by any of the opposite sex. This reservation is a law which is never broken, and no man would be guilty of being seen on his or on any other roof during the forbidden hours.

In many of the larger houses, besides the water fountains, others playing scent or scented water are to be found. Sections of the courtyards also are slightly sunk, and these portions are filled with scented oil, which is used to perfume the rooms.

Moors are exceptionally particular in discarding their footgear before entering a room or crossing a rug or carpet; they even change slippers before entering the "Patio" from the street. Thus the houses are kept beautifully clean and sweet, and are not, as many people suppose, musty or close. At night-time it is usual for the owner to bar himself in, his men slaves, etc., sleeping in the passages or outside the entrance door until the morning.

There are a certain number of architects in the country called "Mohandis," but as a rule the owner becomes his own architect, and the house is built without any particular idea. The result is that no two houses resemble each other in the details, and the many additions give them a most curious appearance. From my own personal knowledge, it seems to me that the staircases are always forgotten, or else are left until the last, and then built as an addition, and not incorporated in the general design. In the photograph of my own house will be seen a hand roughly drawn on the wall. This mark is put on every building, and is placed there to protect both the house and its occupants from genii, in which all Moors firmly believe.

Courtyard in a large house, showing the owner and slaves in attendance.

My own impression of Moorish houses, both in Fez and Morocco city, is that they are exceptionally fine residences in the spring, summer, and early autumn, but in the winter or rainy seasons are particularly uncomfortable, cold, damp, and cheerless. The absence of fires to an Englishman is almost unbearable.

These discomforts seem to affect the Moor very little; he hardly heeds cold or wet, and will calmly go to sleep in soaking wet clothes, and experience no ill effects therefrom.

A NEW SELF-TONING PAPER. The Kodak "Solio."

THERE are nearly as many self-toning papers on the market as of those which require to be toned with gold or platinum solutions. The simplicity of manipulation which characterises these papers, and the certainty of the results to be obtained with them, readily account for the popularity they have attained in a comparatively short space of time. Ease in working and the absence of any necessity for special knowledge or manipulative dexterity are the general cry nowadays, and the perfection of these papers in which the toning compound is assimilated with the image-forming emulsion is the answer to the cry.

Apart from these, however, there has always been a class of photographer to whom it is a pleasure to obtain results distinct from those that the makers of the material with which they work intended, and long may they continue to exist and flourish, for it is to them that we are indebted for acceptable variations from the usual thing. These workers, however, are few compared with the multitude of every day photographers, and the latter will readily sacrifice the power of varying their procedure for the sake of certainty in results. Those who desire, either from business reasons or from choice, to have their prints uniform in tone will find their work much simplified by the self-toning papers, for it is almost as difficult to obtain varying colours with them as it was to avoid them with the older brands.

The newest candidate claiming support is the Self-toning Solio paper which the Kodak Company has placed at our command. In this, as with other materials, the company has made no move till the paper was practically perfect. It is, like the regular Solio, made in the two varieties, the glossy and the matt, and the treatment required is of the simplest. The image is printed, as in the case of the ordinary papers, till it is a little darker than it should be in the finished picture, but no darker than we are accustomed to do in the case of print out silver papers. The after treatment—toning, as one would call it, and justly so, for the process is still one of toning, though the precious metals are absent in the solutions used—depends upon the colour wanted. If purple browns are required, comparable with those which the ordinary papers yield, the prints should be placed without previous washing in a solution of one grain of ammonium sulphocyanide to the ounce of water for four or five minutes. They are then to be washed for five minutes in water, and fixed in hypo three ounces, water twenty ounces. For warmer tones a one in twenty bath of table salt is substituted for the lphocyanide solution. In the salt bath the prints are allowed to remain for five minutes, and are then transferred to the hypo bath without intermediate washing. In either case fixation must be followed by thorough washing to eliminate the hypo.

At Wells (see page 65). *By F. H. Evans.*

It is stated that the sulphocyanide bath is better suited for the glossy paper and the salt bath for the matt surface paper. This is, of course, a matter of opinion; we prefer the former treatment in both cases. The uniformity of the results obtainable may recommend this paper to the professional worker, who, notwithstanding the higher price entailed, by the addition of the gold salts, may find it as economical in the long run as the older brands of toning paper when the elimination of the troublesome gold bath is considered. Some hasty experiments that we have made lead us to believe that those whose fancy is untrammelled by trade considerations may find it not difficult to vary the tones within wide limits. With this, however, we may deal at greater length on some future occasion. The paper is sold in the usual shilling packets of twelve half-plate sheets, other sizes in proportion.

The Bridge, Wells Cathedral, from the east (see page 65). *By F. H. Evans.*

THE LATEST OF THE ROLL FILMS. Messrs. Elliott & Sons' "Barnet."

SOME months ago we were enabled to announce that Messrs. Elliott and Sons were preparing to put on the market a roll celluloid film; and during the last few weeks we have been giving the Barnet films as they are called a severe and searching test, both in the laboratory, and, what is more satisfying to many, in actual field work. We do not pretend to push a premature panegyric into print, or to publish a puffing notice without any basis of personal trial, and those who expect a critical review of new products to be published the week they are commercially obtainable must seek it elsewhere than in our columns.

The admirable qualities of the Barnet film justify the care exercised in bringing it out. That their most recent production should immediately step into the front rank is an achievement of which Messrs. Elliott and Sons have reason to be well satisfied. Roll films are delicate material, and to secure high speed, density giving power, fine gradation, a grainless emulsion, freedom from blemishes, and cleanliness in developing might well tax the resources of even such an establishment as that at Barnet.

In speed the film vies with the most rapid of their plates. Speed, however, is one only of the qualities that are looked for. An emulsion that with brief exposures requires forcing to give reasonable density in the high lights is only moderately successful in the hand camera. And on the other hand, steep gradation leads to harsh contrasts in the prints. In the Barnet films, speed, density, and harmonious gradation are happily combined.

Pyro-soda is recommended by the makers, the formula being roughly: Three grains of pyro, twenty-five grains of sodium sulphite, twenty-two grains of sodium carbonate, and half a grain of potassium bromide to the ounce of water; but any other developer gives equally good results. A bath of glycerine, one ounce to eighty ounces of water, is suggested after washing by way of keeping the film flat and pliable, but is better omitted when possible.

The prices are those at which roll films are usually sold, that is to say, 3s. for twelve quarter-plate exposures, and the other sizes in proportion.

THE MUCH-RECOMMENDED ALUM BATH is no use in tropical countries for preventing frill, says *Phot. Industrie*, and the only effective preventive is the application of hard copal varnish round the edges of the film. Zanzibar copal is the best to use, and it should be dry distilled, pulverised, and then dissolved in alcohol and ether, and a trace of camphor added. The camphor renders solution easy. It is suggested that plate-makers should do this before sending the plates out to warm climates.

"The time has come, the Walrus said, to talk of many things."

I FIND it quite impossible to keep pace with the rush of novelties and improvements as announced week by week in the photographic papers. Only the other day I chronicled the abolition of the dark room, and now it has reappeared in pocket form. A tourist starting off for a long photographic excursion can now take a camera, a huge supply of films, all his developing chemicals, and his dark room, and yet carry the whole lot in his pockets. There is only one thing I am waiting for, and then I shall go on a tour myself.

* * *

What I want is a pocket hotel, complete.

* * *

A couple of friends of mine are very fond of inviting me to join them in a photographic excursion "on the continong." When I can't go they go alone, and bombard me with pictorial postcards with such messages as, "Dear Walrus,—This is the finest place in the world for photography. We are exposing 100 plates per day." Or thus, "We have taken root here, and are never coming back." Or, "Dear W.,—Even *you* could not fail to get pictures here, so you can imagine what the place must be like. Why didn't you come?"

* * *

They made a mistake once, though. They wrote me a glowing account, mostly utterly false, about a place I knew well; and I had the pleasure of telling them when they came back that I had photographed every inch of the ground long before they bought their little pocket Kodaks, and that they stood convicted of having done violence to that veracity which should be as habitual to photographers as it is rare amongst anglers.

* * *

Many of the vociferous postcards of these peripatetic photographers hailed (literally hailed) from the land of windmills and schnapps; and I was reminded of some of my friends' photographs in that froggy land by a new picture which has appeared in the shops recently—A Holland Morning. That picture seemed to show that perhaps after all there *is* something pictorial in Holland—something not only better than my friends' photographs portrayed, but better even than their postcards suggested. And that is saying a good deal.

* * *

I fell in love with that picture—with the canal and the road thereby, with the trees and their shadows, with the pleasant meadows beyond, and, above all, with the Dutch girl and her beautiful posies. Nearly every day I made a little pilgrimage to a picture-shop to see the Holland lass. But one day as I approached the shop I saw the window surrounded by a laughing crowd. What had happened? Had my little Dutch girl fallen into the canal? Alas! she had disappeared from the window altogether, and in her place was a set of four coloured prints entitled "Amateur Photography."

* * *

No. 1. A rotund old gent has his head under the focussing cloth of a camera directed towards a fair damsel whom we will charitably assume to be his daughter; or shall we say niece? A dog is posing beside her, but by no possible chance can the lens include it. At the far end of the field a bovine quadruped is watching the proceedings.

* * *

Eh? You know what's coming? Of course; but the old gent doesn't.

* * *

No. 2. The old gent, the niece, and the dog have suddenly awakened to the fact that something *is* coming, and coming at a thumping gallop. The niece hoists her skirts preparatory to scaling the gate, and I need only add that this picture is entitled "Exposing."

No. 3. The niece has safely reached the other side. It seems to me that there is a good opening for another picture between this and No. 2. But perhaps it is better as it is. At any rate, it is the old gent that is floundering over the gate while the bovine quad. assaults the camera, which, in spite of its three legs, is the only one that can't scoot.

* * *

No. 4. The bov. quad. looks longingly over the gate with the camera impaled on one horn. The leedle dawg has caught his chain in the gate, and is strangling himself as fast as he can. The old gent is telling the bov. quad. what he thinks of him. The niece, to her credit, is shutting out the flow of language by plugging her shell-like ears with her lily hands.

* * *

I have some faint recollection of seeing a somewhat similar subject somewhere before. Haven't you? It seems familiar. The hull and the artist; the ditto and the angler; the same and the photographer; the aforesaid and everybody who can run, walk, or hobble through a field. Perhaps the pictures were funny. But I would rather see my little Dutch girl again.

* * *

I sometimes feel it a great hardship to be a writer of mere Piffle, and at those times my heart goes out in sympathy to the "higheads" in the pantomime. They, poor beggars, have to stand behind even the old crocks in the ballet back row, and yet they know that they could give points to the leading comedian. They feel that their proper sphere is the legitimate drama, and that they could make any modern tragedian pale his ineffectual fires before the refulgent splendour of their Thespian art.

* * *

Similarly I recognise the fact (even if no one else does) that I was born to shine in the realms of scientific research, or to be a leader in pictorial work, or a pioneer and authority in the more abstruse matters connected with photography. I feel that I ought to be

Some Dr. Spitta with a microscope,
Some Abney, Watkins, Greathach, Trueman Wood,
Some Will A. Cadhy with a Bergheim lens,
Some Bennett with his views misunderstood.

Instead of which I am only the Walrus and write Piffle.

* * *

These reflections, with the reappearance of the line which headed the first page of Piffle, remind me that several moons have waxed and waned since first I made my bow. And now, for the space of one brief paragraph, I crave a rest. I lay aside my cap and bells, my bauble and my motley suit, and I speak for once with unaffected voice.

* * *

I sincerely thank all those who have taken my modest fooling in such good part; who have written me kindly words of friendly appreciation; who have laughed more heartily, I fear, than my poor jests warranted. Not one drop of gall have I added intentionally to my mixture, and I think and believe I have offended no one. It is therefore my hope that I may still be privileged to while away a few moments of your weekly time, and that for yet a space I may continue to sign myself THE WALRUS.

SUBSCRIPTIONS.

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PHOTOGRAPHY

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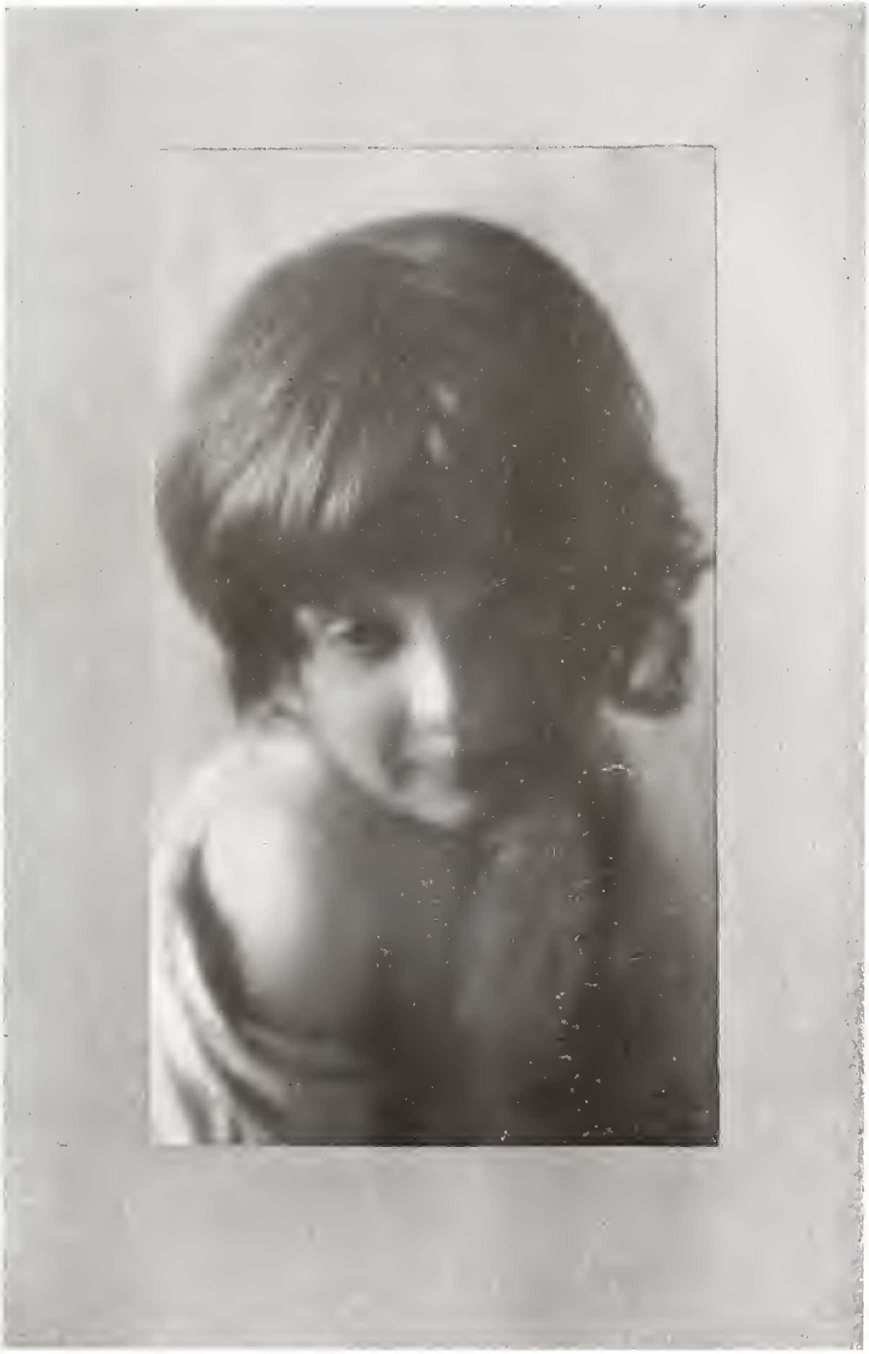


A CITY SPARROW. BY MRS. BARTON.

S. WRAY

THE CHILD PICTURES OF MRS BARTON.

BY "FECIT"

SPECIAL TO
"PHOTOGRAPHY."

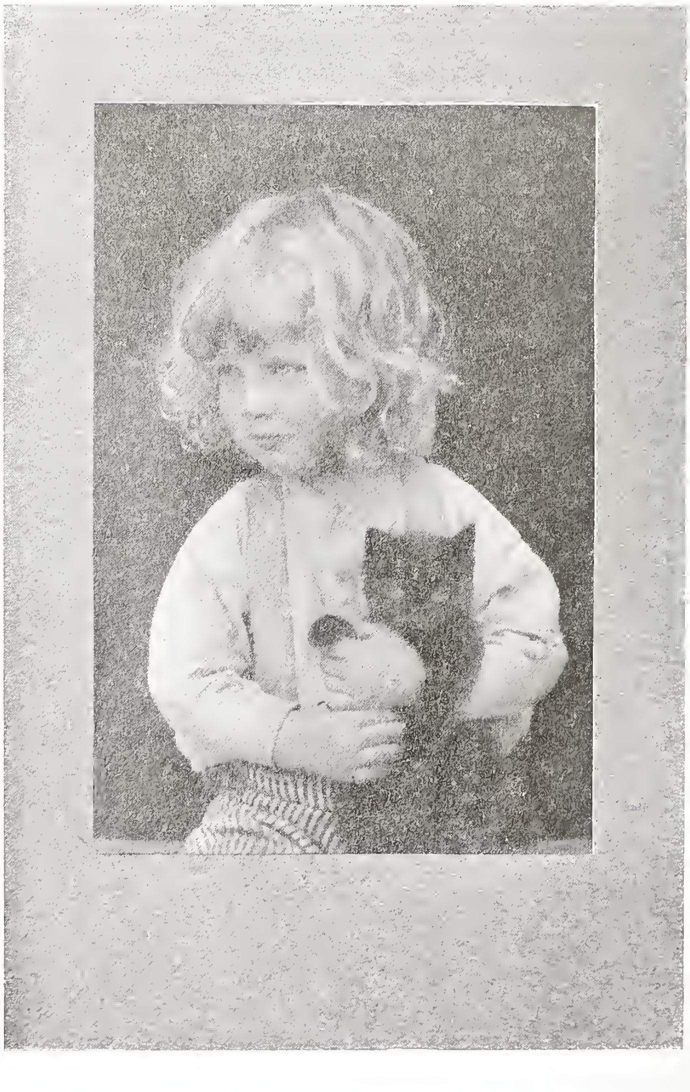
A PRETTY child is perhaps the most fortunate model that a figure photographer can have to do with. Its tender years make virtue of what in older beings would oftentimes possibly prove undesirable manifestations of human failings. Even such naughtinesses as "nasty temper" can be caught, thanks to the rapid methods of photography, and converted into subject matter. The direst self-consciousness of a youngster is rarely anything worse than merely amusing, and may, on occasion, be very winning.

Mrs. Barton has had considerable experience with this class of sitters. The pages of *Photography* contain many a tribute of praise to the works she has exhibited in London from time to time. Having practically constituted herself a specialist, she comes well within the scope of the short monographs upon notable photographers which we have contributed to these columns from time to time.

Her work is pleasantly varied in style—sometimes soft in definition, at other times abounding in crisp detail—but it is never hard. From a quantity of prints submitted, half a dozen of the best have been selected to illustrate this article. They show very fairly the range and reach of Mrs. Barton's powers.

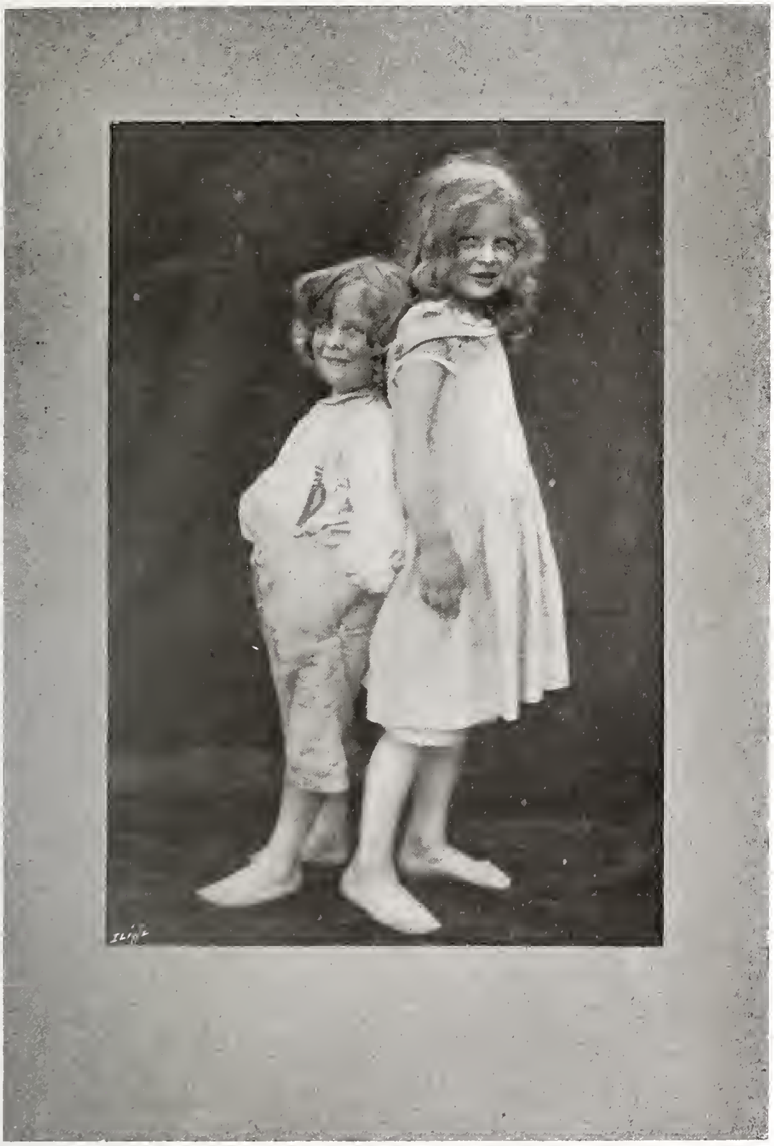
It will be seen that only in two cases here given does actual episode play any part in the designs, and in neither of those cases can it be said that there is a distinct gain, on that account, over the more simple subjects. That called "Sonnie" is the better, because the girl carries the baby with such evident relish of the fun of holding him to be photographed. The vitality of her expression contrasts so oddly with the phlegmatic indifference of the younger sitter, who submits philosophically whilst his mind is set on more weighty matters, that there is subject enough in the incident to excuse the not over lovely faces, and to win approval for the picture irrespective of the pretty pose of the girl and the technical excellences of the print.

Of the other episode, called "Country Children," there seems to have been some motive in the title, the choice of which was made perhaps to account for the large feet and sheepish look of the children. The girl, however, is pretty enough, thanks to her hair and eyes; but the boy is not so engaging. Both are too evidently posing, and the business of measuring heights is more than once removed by the more engrossing pastime in which Mrs. Barton plays a part.



My Lu Lu. *Mrs. Barton*

The colour and lighting of this piece are somewhat cameo-like, having a decided relief of edge all round the main form, and scarcely melting at any spot into the background. There is no necessitous reason, of course, why this should not be so; but it is generally considered more artistically satisfying to secure the scheme of light and shade that will produce the rise and fall of tone and the losing and finding of edges. Some greater variety in the background would have gone far to produce such effects.



Country Children *Mrs. Barton*

"My Lu Lu" is open to much the same objection. The black cat—which is, by the by, quite a pretty help to the picture—saves the situation, by bringing the tone of the dark background into the sharply-defined mass of the light figure. How much better, in this respect, are the other four heads, particularly "A City Sparrow" and "Beaux Yeux."

The two last-named, in fact, are very beautiful studies in every way. In lighting, pose, and expression, they are both particularly fine. "A City Sparrow" has the great advantage of being the possessor of a facial expression unhackneyed and winning, although it has the mixture of pleasure and pathos—the stock-in-trade of the makers of popular children-pictures. There is a remarkably fine quality in this little work, the breadth of tone that spreads over the shaded part of the face and breast being very artistically given. Within this soft broad shadow all the essential forms and detail are delicately revealed by a mere suggestion of reflected light. Against the background the dark locks tell with quite a decorative breadth of form and tone. The shoulder also of this little Greuze-like gem is a finely-perceived passage of light playing into shadow on the soft texture of a delicate skin.

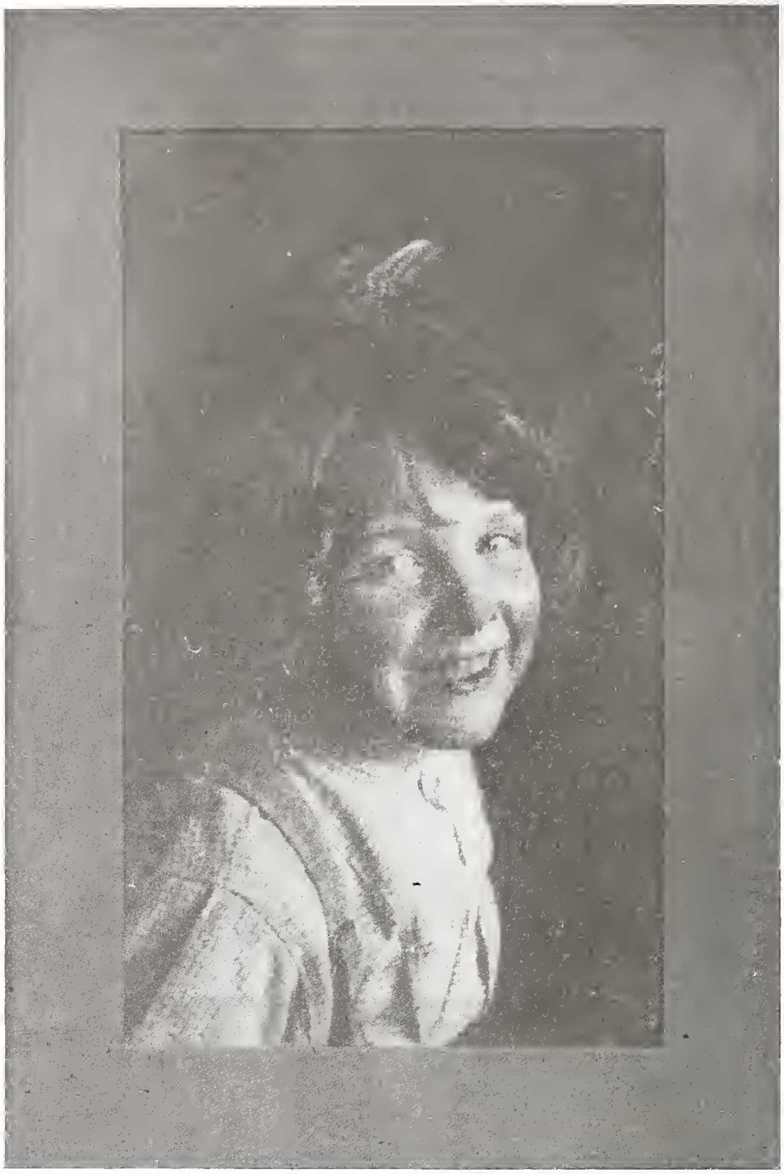
"Beaux Yeux" has similar charms of lighting and breadth of shadow, but though in most respects a lovely work, it is not quite so strong in design and treatment as the "City Sparrow." It is more like what we have become accustomed to in the best photographic work, whereas the other has a touch of that richness and decision which lurk in engraved and etched heads of the best manner. The shadows are lighter in "Beaux Yeux," yet they do not express or even suggest so much. Nevertheless it is, on the whole, little below the other in beauty.

Mrs. Barton would certainly add to her reputation if she were to destroy everything that fell below the level of the merit of these. A photographer can scarcely take too many photographs; but can easily err on the side of a too liberal selection to put before the world. There is a danger, too, of her drifting into faddishness, evidenced by little attempts at trifles of *bizarrerie* in the matter of lettering her mounts and so forth.

It took the writer some time to decipher the title written in a Chinese method upon the narrowest margin of "A Feather in his Cap." The feather certainly is not a very demonstrative item in this capital little print; but the title is, nevertheless, a well-chosen one, for it allows one to read into the expression of the lively boy quite those emotions of joy and pride and mischief that belong to unusual adornment at that early age. It is, or appears to be, a gum-bichromate print, of which the gradation has escaped the sacrifice it often suffers in that process.

There is plenty of character as well as go in this study, and the lighting is again very effective. These points, together with the prettiness of the face and the pleasant red colour in which the print appears, make it a highly attractive little work.

The more ambitious piece entitled "St. Margaret" is chosen more on account of its distinctive style than for any very remarkable quality. It misses altogether the mediæval feeling that excused,



A feather in his cap. *Mrs. Barton.*

and, indeed, recommended, the author's "Madonna" in the Salon of last year, although the treatment was upon similar lines. At any rate, that was, or could easily have stood for, a mother—divine or not—but this little maiden is no saint, and does not seem to be happily associated with the trickery of nimbus and attribute.

Moreover, the hand—so large and dark, and rising in so disconnected a way from the lower margin of the plate—is not in artistic keeping or connection with the head. As for the marguerites, they appear to be stiffly arranged, and to be so unluckily placed that both blossoms look to be growing upon one stem. They might well have been more sharply focussed if they were necessary at all, and in any case should not have been so close to the face. The most shortsighted saint could not see them so close without effecting a most unsaintly squint.

Lastly, the nimbus has been for time immemorial a circular affair. Has Mrs. Barton any artistic right to upset tradition with an elliptical halo?

Whatever there is of charm in this work belongs entirely to the intrinsic beauty of the child's face, and in no way to her ecclesiastical presentment. She is a very winning little maiden, and her rats'-tails of hair are truly girlish and quaint. The modelling of the shoulder and clavicle is nicely given; but the tone of the whole seems to belong more to a "coloured" person than to an English saint. In "The Year's Photographs, 1901," there appeared a similar profile by the same operator, which might perhaps have been from the same model. In many respects it was not so good as the one before us; but, compared from a more general point of view it gained by its simple unaffectedness and freedom from the idea of paraphernalia. This idea is fatal to success in photographed pictures, which seem to have no legitimate connection with the shifts and resources belonging to the studio of a painter who can conceal the means in the end.

Mrs. Barton is certainly a first-rate photographer, and her works should be sought out and studied by any who feel attracted to her kind of subject. Her studies are lifted out of mere portraiture by a delicate decorative sense and feeling for style. Seldom does she content herself with the fully-arrayed little lady of the upper classes. Her pictures may be said to be more of childhood than of children, and to savour more of the ideal than of the actual as we see it around us.

Advice upon the Making of "Photo-Buttons."

PROFESSIONAL photographers would seem to be constantly calling for novelties with which they may stimulate a jaded public. We have been asked so frequently for the addresses of firms making photo-buttons that there can be little doubt of the demand for these articles of adornment. Mr. J Fallowfield, of 146, Charing Cross Road, W., is now supplying cameras, apparatus, and materials for the manufacture of photographic brooches, pins, sleeve links, etc., which all come under the same generic title.

He also publishes at sixpence a pamphlet giving full instructions, and containing numerous and valuable hints upon the best methods of obtaining orders for them and for increasing the amount of business generally. We understand that about £10 will purchase the presses, dies, and apparatus requisite. The buttons and brooches may be sold in the simplest form, or they may be mounted in gold, gold plated, or gold filled frames, which are supplied at very moderate prices in a variety of designs by Mr. Fallowfield. The photographer who takes up this class of work ought to reap a considerable profit from it, and at the same time find it a means of increasing his ordinary business.

QUESTIONS AND REPLIES

Readers wishing for information upon any specific point in connection with photographic theory or practice are invited to make use of the "query form," which will be found amongst the advertisements. All enquiries must comply with the conditions stated upon the query form; those which do not do so are neither acknowledged nor answered. All enquiries are answered by post. We cannot undertake to make replies in the paper. We print below from time to time a selection from the queries we receive, and our replies.

ENLARGING FROM A C.D.V. PORTRAIT.

I have been trying to enlarge a C.D.V. portrait up to cabinet size, but the prints I get are very mottled in appearance, although the original is a good one. Is there any special method of working?

Copying from a paper print is at all times troublesome, and when the copy has to be on an enlarged scale the difficulties are greater. The surface of the paper is never quite smooth, and if the light falls upon it from one side each little roughness throws a shadow which naturally appears in the copy. Probably the portrait is on albumenised paper, which is not so smooth as the newer gelatino-chloride papers. In that case burnishing the print if it has not already been done will help matters, but the most important thing is to work in diffused light which falls from the front. By working in that way, no perceptible shadows are thrown. It cannot be expected that the copy will be quite as good as the original.

PINK HIGH LIGHTS ON P.O.P.

I find myself quite unable to get pure whites on P.O.P., although I have tried a variety of toning baths, including the ammonium sulphocyanide recommended by the maker. The paper is white when I buy it, but after toning the parts that should be white are of a most unpleasant pink colour.

The fault in all probability has nothing to do with the toning bath, but is due to the paper being worked in too strong a light. An instructive experiment is to cover half of a negative with a piece of opaque paper, such as the inner black envelope in which the sensitive paper is packed. If there is any doubt about the paper being opaque use two thicknesses. Place a sheet of paper from a fresh packet in the printing frame by gaslight and print in diffused daylight, taking care not to open the half of the frame in which the opaque paper is. When the print is complete, remove the paper by gaslight, and after covering up half of the white part, expose the other half to daylight for a few seconds only (not sufficient to produce a visible tint), and then tone by gaslight. If the part which received the brief exposure becomes pink while the other part remains white the cause of the discoloration is evident and the remedy is obvious.

PLATINOTYPE PRINTS IN TWO TINTS.

I have seen at the exhibitions platinum prints which were vignetted in a very pleasing and sketchy style. In some cases the faces of the portraits were of a pink or reddish tint. I believe this is done in some way with glycerine, and should be glad to have instructions.

The image is printed out in the ordinary way. The print is then laid face upwards on a sheet of glass and brushed over with pure glycerine in which the platinum and iron salts are insoluble. A cup containing the ordinary oxalate developer, another containing a half and half mixture of developer and glycerine, another containing a saturated solution of mercuric chloride, a fourth with a mixture of mercuric chloride and glycerine, and a fifth containing pure glycerine will be required. At least as many camel-hair or sable brushes as there are cups will be wanted, and a few extra will be convenient. A developing dish with a supply of dilute hydrochloric acid should be at hand. A mixture of the oxalate developing solution and of mercuric chloride will give tones ranging from brown to yellowish brown, the greater the proportion of mercury the warmer the colour. The glycerine holds back development, and by diluting the two developers with it various effects can be obtained. It is best to begin with the flesh tints and to leave the blacks till they are completed. The exact proportion of the chloride to the oxalate must be found by experiment. By diluting the oxalate solution with various proportions of glycerine the image may be vignetted off as required. The whole of the work must be done pretty quickly and the print cleared as soon as the desired effect is obtained.

SPOTS ON A NEGATIVE.

On some negatives that I have recently developed there are a number of minute brown or blackish-brown spots. The developer was quite fresh; in fact, I had just made it up. Please say what was the cause, and how they can be cured?

The spots may arise from a variety of causes. Possibly there were specks of rust in the water drawn from the tap, but as the developer was freshly made up it is most probable that some of the crystals of developer had not dissolved, and these lodging on the face of the plate led to spots of great density. To cure them is a troublesome matter; possibly a fine needle might be used to prick the spots and so let a little light through, but the burr thrown up by the needle must be scraped off with the edge of a sharp knife, or the spots may be more opaque than at first. The simplest thing is to spot the white specks on the print.

BLOCKING OUT PART OF A NEGATIVE.

I want to block out the surroundings of some machinery, but cannot get the paint to lie in straight lines as required. What is the best paint for the purpose, and how should it be applied?

We have always found Bates's black or a home made varnish of bitumen in benzole an excellent thing for blocking out with. Straight lines can be ruled with a draughtsman's pen and a straight edge and curves by the use of a curve templet. Once the line has been drawn it will be found quite easy to paint up to it without overstepping the mark with quite a large size camel-hair brush of cheap quality. Instead of laboriously painting over a large surface, in which case there is always some difficulty in getting the coating even, it will be found better to paint round the edges only and to obscure the remainder with thin opaque paper. When the work is at all intricate and the worker inexperienced, it may be found better to take a proof on thin silver paper and to cut this out in the form of the mask. It can be made opaque by placing it in strong daylight for a little while. With a little care it is not difficult to attach the mask to the negative with touches of gum. Even quite small detached pieces may be blocked out in this way.

PORTRAIT WORK INDOORS AND OUT OF DOORS.

I have a whole-plate camera and want a lens for group work (out of doors). Would you advise me to get a portrait lens of 14in. focus, covering 9in. by 7in.? Will it do equally well for out of door as for indoor portraiture? Any information generally will oblige.

A portrait lens may be used for either indoor or out of door work, just as a lens of any other type may be. Portraits taken in ordinary rooms are apt to be harsh because of the small area from which the light proceeds. Out of door portraits, on the other hand, are likely to be flat by reason of the light falling from so very wide an area. It is in allowing just the exact amount of light, and in controlling the direction from which it falls upon the sitter, that the skill of the successful portrait maker is shown. The conditions which exist in a studio are in a general way those to be aimed at whether the work is to be done indoors or out. Temporary screens will assist largely in the latter case. Although the possession of a good lens will assist materially in producing good work, skill in controlling the light is always of first importance. For group work, the lens is of good focal length, enabling the figures to be taken of a fair size without approaching too closely to the sitters and so giving a wide angle appearance to the picture. It is also suitable for heads and busts and, of course, for full length figures, although it would not be possible to take the latter with it in a short studio or ordinary room.

BROMIDE EMULSION.

I shall be greatly obliged if you will give me a formula for sensitising cards to print by gaslight together with instructions for preparing the emulsion.

No satisfactory formula for a bromide emulsion to give good positives has been published. The paper makers naturally keep these particulars as trade secrets. The following formula will serve as a basis for experiments:

—Potassium bromide	166	grains.
Distilled water ...	14	drams.
B.—Silver nitrate ..	200	grains.
Distilled water ...	27	drams.
C.—Potassium iodide	6	grains.
Distilled water	5	drams.

Thirty grains of Heinrich's hard gelatine are also required. Full instructions for compounding the emulsion and coating the paper will be found in Sir W. Abney's "Instruction in Photography," and in a briefer form in "Chemistry for Photographers," by C. F. Townsend. As the emulsions dealt with are all intended for negative making, experimental work must be done before a satisfactory bromide paper can be made.

FOCUS OF LENS AND VALUE OF STOPS.

The circles enclosed give the diameters of the stops supplied with my lens. What are their values? I would send the focal length of the lens, but do not know from what part of the lens to make the measurement.

If the lens is a rectilinear it will be sufficient to focus it upon a distant object and measure from the diaphragm to the ground-glass to obtain a rough estimate of its focus. If it is a single lens the measurement should be made from the back surface of the lens to the ground-glass. The diameter of the stops divided into the focus of the lens gives their focal value. We cannot say what the values of the stops are without knowing the focus of the lens, but as the largest of the tracings you send is one inch and three-sixteenths in diameter, either the lens must be much longer in focus than is usual with quarter-plate cameras, or it works at an exceptionally large aperture, somewhere about f/5

PHOTOGRAPHING MACHINERY.

I have been trying to photograph some machinery, but without success. The plates were ordinary, unbacked, and on development were badly fogged. Do you recommend fast or slow plates, and should they be backed? Also would it be an advantage to use backed plates for all classes of work, as I find I get a great many fogged plates?

It is distinctly advisable to use backed plates for all classes of work, but they will not prevent fog in the ordinary acceptation of the word. We should advise that the lens should be cleaned occasionally, as if dust gathers upon it everything that is taken with it will appear hazy. General fog is most likely the result of using an unsafe dark room lamp, or of exposing the plate too long to the light of one that is reliable. The plate should be covered up during the greater part of the time of development. Halation is a spreading of the high lights, and is a common defect in photographs of machinery. All the polished metal parts should be dabbed over with a piece of putty, care being taken to avoid irregular markings. A small stop will certainly have to be used to bring the near and distant parts of the machine into sharp focus. The best plan is to focus upon some part of the machine about one-third of its total depth away from the front with full aperture, and then to stop down until both near and distant parts are equally sharp. If the work has to be done in a poor light, as most probably will be the case, it is as well to attach one or two bits of printed paper to different parts of the machine, and to get someone to hold a lighted candle near them while focussing is being done. A focussing eyepiece is a useful accessory, but care must be taken to adjust the glass to suit the eye, or it will mislead instead of giving assistance. It is seldom that a machine can be removed from the place where it stands to meet the requirements of the photographer, but as far as possible arrangements should be made to light it evenly. In indoor work of the kind the contrasts are apt to be violent, and the trouble is to flatten them. If it is lit only by one small window, two or three sheets of tissue paper, gummed edge to edge and suspended between the window and the machine, will soften and diffuse the light. Should there be a window behind the machine it should be blocked up with brown paper. All this will prolong the exposure, but the results will be infinitely better.

CONTROL IN INTENSIFICATION.

I have intensified a negative and now it is too dense. Can this be remedied? Is there any method of intensification that can be controlled so as just to give the amount of density that one requires?

The density of the negative may be reduced by placing it in a clean hypo bath. If it does not readily reduce, a few drops of saturated solution of potassium ferricyanide added will quickly have that effect. There are quite a number of intensifying processes, each of which gives a different degree of density. Probably the simplest and at the same time the one with which the amount of density can be most easily regulated is the uranium bath. Eight grains of uranium nitrate are dissolved in one ounce of water, and eight grains of potassium ferricyanide are dissolved also in one ounce of water. The two solutions are mixed and two drams of glacial acetic acid are added. Into this the negative, which should previously have been soaked for half an hour in cold water, is placed and allowed to remain till sufficient density has been acquired, when it is rinsed in two or three changes of water and dried. It will at first be found difficult to estimate the increase of density caused by the change of colour in the image from black, through brown, to red, but if the action is carried too far prolonged washing will, to a great extent, undo the intensification, and bathing in a weak solution of ammonia or of sodium carbonate will entirely remove it.

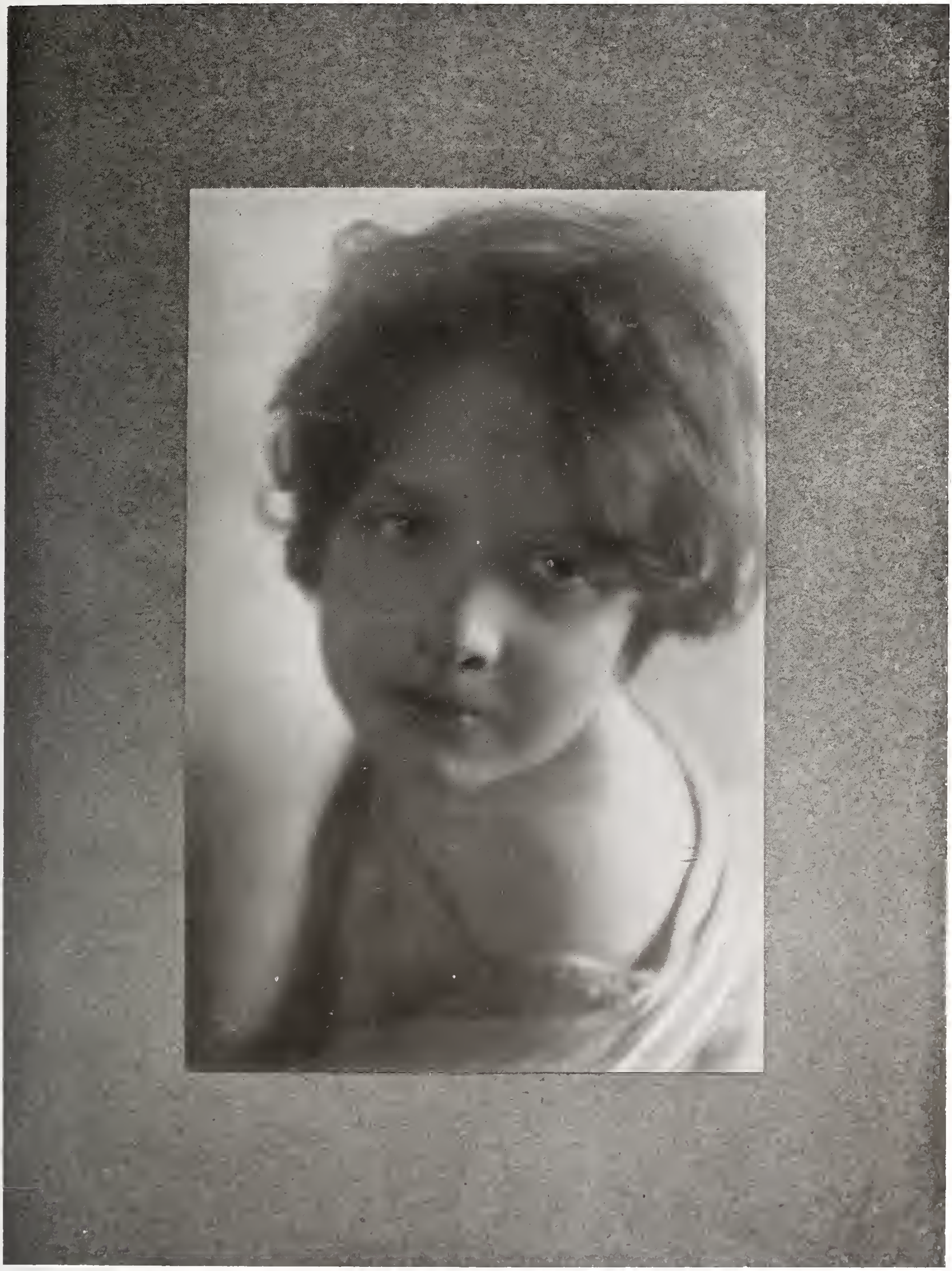
AN EASILY MADE PINHOLE.

Please say whether I can buy, and if so where, discs with accurately drilled pinholes to be screwed into a lens flange. I have not time even if I had the skill to make pinholes for myself with any degree of accuracy.

We do not know of any place where the discs described can be purchased. We should think, however, that a satisfactory pinhole could be made by anyone in a very few minutes. We have done very satisfactory pinhole photography by removing both lenses from the mount of a rapid rectilinear and placing in the diaphragm slot a piece of thin card with a quarter of an inch circular hole in the centre. Across this hole was gummed a piece of black lantern slide binding strip, and in the centre of this a pinhole was made with the red hot point of a needle. The hole was afterwards enlarged with the cold needle until the latter just passed through. The size was measured by counting the number of the same sized needles that would lie side by side in the space of an inch. The whole thing can be done in a quarter of an hour, and gives a pinhole thought desirable. Mounted pinholes are supplied by Adams and Co., of 26, Charing Cross Road, London, W.C.

NOTICE TO ENQUIRERS.

Answered by Post: Ernest Mabie, T. B., Shutter, Advertiser, D. Woodbridge Biggs, X Y. Z., A. G. Statham, W. H. Walters, H. Foord, D L.F., M R., B.E.U., Rotograph, Oswestry, A. W. Godfery, A. J. Evans, G.L.J., Amidol, Subscriber, E. Armfield, Mrs. G. Therwood Hunter, Watford, E. Yglesias, J. R. Brown, Frena, Enammo, Stupid, H. S. T. Heywood, Focal Plane, F O. Brackenbury, D C., Dampcourse, J. Field, T. H., W Scope, R. J. Shaw, F.G., W.A.Y., W. Stephens, Col. Dickens, Constant Reader, Bristol, S W.J., H. Anderson, E. N. Carter, G. Geddes, jun., H. W. F., Liverpool, A User of Wellington Bromide Paper, J. H. Willats, H. Aldermaston, W. Halpin, A Shareholder, Thornton Heath, C. J., L. Noel Paradise, Weno, J. C. Creighton, W.M.E.S., Vignetter, Disgusted, Bert Cramp, T.B.C., Collodio-bromide William R. Adams, H. N Heppenstall, J.C.H., H. W. Lindsdell, G. P., S. Green, H F., Ella Croft, H. J. C., Professional, S.M.A.



Beaux Yeux. *Mrs. Barton.*

Correspondence
For the free discussion of all matters of general interest to Photographers
S.R. Jones

The Editor is not responsible for the opinions of his correspondents.

MARKETABLE PINHOLES. A SUGGESTION.

Sir,—I have been reading with a great deal of interest the article by Mr. Combe (in *Photography* for July 4th) upon pinhole work, and have been, if I may say so, as much struck by his illustrations as by his description His account of how to make a pinhole, or rather a needle hole, is explicit enough, but it is unfortunately couched in the metric system instead of our own, which, whatever its faults, is at least familiar. A hundredth of a millimetre, or even a millimetre or centimetre itself, conveys nothing to me, until I can think out what the hundredth or thousandth or hundred-thousandth part of forty inches (approximately) may be like. The system may be very shapely and convenient, but until we can *think* in it, it seems a pity to use it in a practical journal, such as *Photography*. Why not leave it for the scientists, not all of whom use it now when they can help it.

But I did not intend to take up your time grumbling at the metric system—far from it. I want rather to draw attention to the illustrations which accompanied Mr. Combe's article. It seems to me that these are sufficient to upset our preconceived notions of pinhole pictures, as blurry, foggy abominations, which have to be titled, and titled in big print, if we are to see what they are intended for. Mr. Combe and his fellow workers have shown plainly enough that in competent hands there is indeed very little to choose between the pinhole and the lens where definition is in question. In fact, it would seem that for carbon or platinum work in half-plate and larger sizes the pinhole properly used gives all the definition that the printing process can register.

The C.C. platinum paper and the etching and similar transfer papers of the carbon tissue makers have a pleasant rough surface, but one on which much of the fine definition given by a modern anastigmat is thrown away. A pinhole negative should give prints on these papers every bit as sharp. That being so, why should we waste our money upon expensive stigmatics and anastigmats?

Let us rather substitute for them suitable pinholes. There seems to me to be a little "catch" in spending money in elaborate instruments to give fine definition, only to lose it again deliberately and intentionally in printing.

This brings me to my last point. Why does not some enterprising manufacturer put on the market cheap, measured, unmounted pinholes? A piece of thin blackened brass, three inches square, with a properly made pinhole in the middle of it, stamped with the size of the hole, suitable camera extension, and an exposure guide such as

"With a camera extension of six inches, this hole
requires 1,200 times the exposure of f/8,"

should be very saleable at a shilling, and should yield a handsome profit. This would get over all the difficulties of the would-be pinhole worker in one jump. Why do not one of our manufacturers purvey it?

Yours, etc.,
G. H. GOUGH.

[The final suggestion of our correspondent seems an useful one. But in suggesting the wholesale substitution of pinholes for high class lenses he has surely overlooked the question of exposure. The great merit of a modern lens is that it will do at f/6 what another would only do at f/12 or f/16. Moreover, in the case of carbon printing at any rate, where the smooth surfaced tissue lies close to the negative during printing, the use of a rough or even of a very rough final support does not involve the loss of so much detail as when the actual surface in contact with the negative is rough, as in the case of rough surface silver and platinotype paper.—ED.]

A WANT.

Sir,—I have spent some hours to-day, and quite in vain, endeavouring to obtain a few sheets of black paper such as that from which the ordinary masks are cut, so that I could make some for myself of odd sizes and shapes. It seems a singular thing that most photographic dealers in such a centre as London should look upon a customer who asks for such a thing as not being quite "all there," yet two shopmen, at least, seemed to think that I was a harmless (let us hope) lunatic, asking for something which no one had ever asked for before. Does anyone sell such a thing in small quantities, say a quire or half a quire? If so I should like to know his name and address.

Yours, etc.,
A. M. W. NICHOLLS.

[We ourselves have enquired of two or three dealers since the receipt of our correspondent's letter, but with a similar result—at least so far as non-success went. Perhaps someone who knows where this is sold will enlighten him.—ED.]

MR. BLOUNT'S ARTICLES.

Sir,—In my first article on "Studio Work" the examples figs. 1, 2, and 3 of different lighting in the way they have reproduced make a little confusion in the mind of the reader as to my meaning, as in the reference to the last of these three (side lighting only) I say, "It is scarcely necessary to point out that of the three the last in this case is undoubtedly the most pleasing, having neither the harshness of," etc., etc. Whereas it is much more hard than figs. 1 and 2. It will at once be readily understood how difficult it is to render an illustration of this kind by process block, as the subtlety of the very tones that one relies on for making the example a demonstration of the meaning of the text is often missing, as it is in this case.

Yours, etc.,
DAVID BLOUNT.

PROTECTION FOR PHOTOGRAPHIC MANUFACTURES.

Sir,—In the discussions which are now arousing so much interest—I refer to those upon the subject of preferential tariffs—we hear a great deal about the taxing of food, but very little about the taxing of manufactured articles. I cannot help thinking that these latter might be tried, inasmuch as any tax levied exclusively upon manufactured goods that were not necessaries would not raise the cost of living, but would, if judiciously applied, prevent the extinction and obliteration of what were once and may be again flourishing industries. The experiment need not be on a large scale, nor need it be in the nature of an irrevocable step. It might be made limited in scope, moderate in character, and temporary in its imposition, and if found to be a mistake withdrawn with little harm done.

I believe, however, that it is held to be contrary to the axioms of political economy and injurious rather than beneficial to impose such duties. This is surely a thing that can be found out by experiment better than evolved from one's inner consciousness. Let us make the experiment.

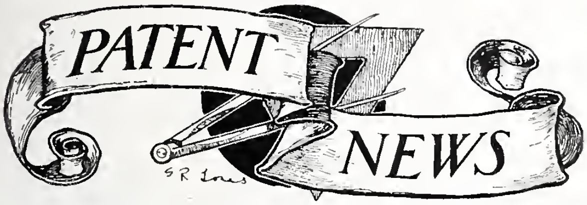
But it may be said upon whom or upon what industry? Why not try the photographic trade? Were we to be able to settle this question definitely once and for all we should earn the national gratitude, even if we wrecked a flourishing if comparatively small trade in doing so. As both a dealer and a photographer of many years standing, I think we might safely chance this last.

I am patriotic enough, but in my shop at the present moment are to be found German and French lenses, German and American cameras—high-class English ones supplied to order only—American roll films, British dry plates made of German gelatine on Belgian glass, German chemicals, and British, French, and American sensitive papers all, presumably, coated on French or German paper stock.

Now I would suggest that a moderate duty—such as the U.S.A. impose upon our manufactured goods; not a retaliatory duty such as, we are told, they will impose if we adopt a protective tariff—a moderate duty, I say, of forty-five per cent. be imposed upon each and everyone of these articles that we can make in this country. I mean by that that we have equipped factories for making. A year or two of such a tariff should be sufficient to show whether it had had a beneficial effect or otherwise upon the industry, and if it had a similar policy might be applied to other manufactured goods, until in time there was hardly a house in the country that had not within it some articles or other made by British hands on British soil.

It seems to me that the photographic industry offers peculiar advantages for an experiment of this kind. Its products are hardly necessaries of life, and it has the real experimental value that its industries, if being crushed, are not yet altogether extinguished, so that the effects of the policy might be made evident more quickly than in the case of a manufacture that had to be re-created.

Apologising for trespassing on your space to such a length,
Yours etc.,
A WOULD-BE MARTYR.



PATENT NEWS

The following specifications of patents relating to photography have been published, and copies may be purchased at an uniform price of 8d., at the Patent Office, Sale Branch, 25, Southampton Buildings, London, W.C. The price of the specifications includes postage to any part of the United Kingdom. The additional postage to foreign countries is usually ½d. per specification. Postage stamps must not be sent on payment of any amount exceeding 1d. In ordering the name of the patentee and both the number and year of the patent must be given.

1902.

17,754.—Wallis. Dark slides.

1903.

4,961.—Fritzsche. Roll films.

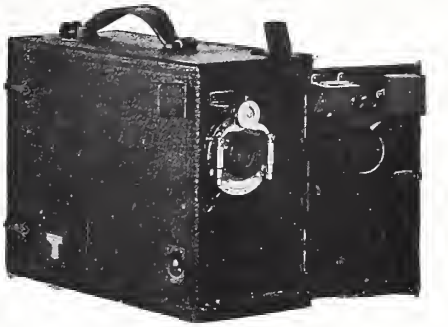
12,515.—Selle. Colour screens.

New Model Cyko Magazine Camera.

The Cyko magazine camera, which Messrs. John J. Griffin and Sons, Ltd., of 20-26, Sardinia Street, Lincoln's Inn Fields, have in the past brought out, is well and favourably known to many of our readers, and the new model which we have under trial bids fair to become still more popular. British made, it possesses all the qualities of thoroughness that we are accustomed to associate with home manufactures. It is substantially built, and is covered in embossed leather, presenting a well finished and handsome appearance..

It is of the box type, but possesses nevertheless many points which are usually associated only with cameras of the folding type. The lens is a Beck symmetrical working at f/8, giving admirable definition, and is fitted to a Bausch and Lomb Unicum shutter, which, it is needless to inform most of our readers, gives either time or instantaneous exposures, the latter ranging from one-hundredth of a second to one second. By an ingenious arrangement the shutter is set and released from the outside of the camera, and the front opens to allow of the speeds being changed, and at the same time permits the interior of the view finders to be cleansed when necessary. These are of the brilliant type, and are shielded by metal covers which prevent the unpleasant glitter that so often calls attention to the camera as it is carried through the streets.

THE CYKO CAMERA.



Focussing is accomplished by means of a device let into the bottom of the camera, and the system of thoroughness which is carried out in other parts of the mechanism is brought to bear here, for a Cornex scale is attached to the side by which the depth of focus given by any selected stop is seen at a glance. Twelve quarter-plates are carried in sheaths, which are fed in from the back in the usual manner and pressed forward into register by a helical spring. Changing is effected in a reliable manner by pressing to one side a spring knob on the top of the camera, and the exposed plates may be removed at any time without interfering with those still unexposed. The usual equipment of tripod screw, bushes on the top and side, and shields for the lens are, of course, provided.

At three guineas, the camera is one of the most conveniently designed and soundly constructed we have seen.

Oval, circle, and panel mounts in new designs, including graduated and Florentine treatment, have been brought out by Messrs. H. and W. Green, of the Crown Photographic Manufactory, Rotherham. The samples sent to us are very tasteful. Our readers should send for price lists and note that the prices quoted are inclusive of printing and postage.

The Week's Meetings

THURSDAY, JULY 23RD.

Blackburn. Ribchester. Excursion.
Watford. Chat on Winter Programme.
Everton. Half-day Excursion.

SATURDAY, JULY 25TH.

EXCURSIONS.

South London. Dartford and Stone.
Boro. Poly. Totteridge.
Croydon Nat. Three Bridges for Worth.
Brentford. Wraysbury.
Ilford. Waltham Abbey.
Southampton C.C. Southampton Common.
Bristol. Clevedon.
Walthamstow. Stone Church and Greenhithe.
Dewsbury. Bolton Abbey.
Blackburn. Ribchester.
Barrow Nat. Tower.
Ashton-under-Lyne. Alderley.

TUESDAY, JULY 28TH

Nelson. Nelson Holidays.
Hackney. Self-toning Papers.

WEDNESDAY, JULY 29TH.

North Middlesex. Technical Meeting.
Everton. Home Portraiture G. Taylor.

THURSDAY, JULY 30TH.

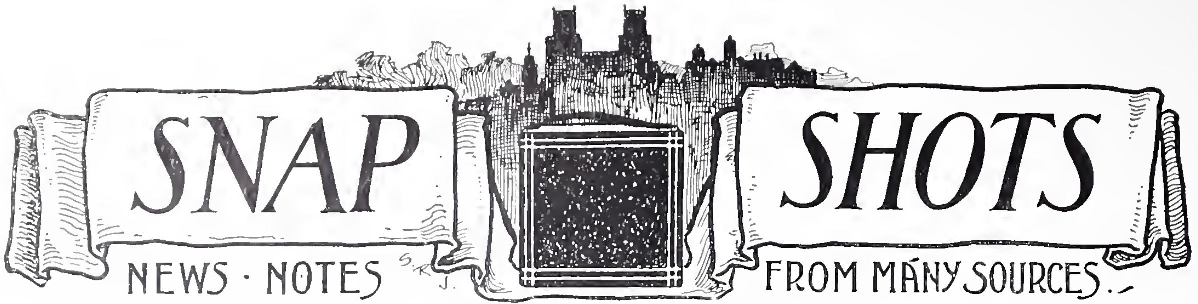
Watford. Informal Discussion and Consideration of Members' Work.

SATURDAY, AUGUST 1ST.

EXCURSIONS.

Hackney. Selsdon Road.
Hull. Kirkham Abbey.
Halifax. Hardcastle Craggs.
Catford and Forest Hill. Ostend and Bruges

Societies will have their meetings announced here if the syllabus is sent to us at the beginning of the Session, or from time to time



The City Sale and Exchange have a large quantity of second-hand and shop-soiled goods on hand. A full list of these, together with conditions for exchange and terms for the easy payment system, can be had on application.

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The prize camera in the Austin-Edwards monthly film-negative competition has been awarded to Lady Hughes, of 12, Addison Crescent, Kensington, London, W., for her negative of the Rose Garden Palace of the Cæsars.

× × × ×

Mr. John Brooke Clarence, a photographer, of Wandsworth Road, London, died at St. Thomas's Hospital on the 16th inst. from the effects of drinking a solution of mercuric-chloride some hours previously.

× × × ×

The annual exhibition of the Edinburgh Photographic Society will be held from November 21st to December 5th. The judges are Messrs. R. Noble, Reginald Craigie, and W. M. Warneuke. Entries close on November 7th, and entry forms can be obtained from the honorary secretary, Mr. J. S. McCulloch, W.S., 3a, North Street, David Street, Edinburgh.

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The third annual Hartlepool Local Trades and Arts Exhibition will be held from September 9th to the 19th. Gold, silver, and bronze medals and certificates are offered in the photographic and art sections. The judging will be in the hands of Mr. Edgar G. Lee. Entry forms can be obtained from Mr. G. Scott, 30, Cobden Street, West Hartlepool.

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The School of Pictorial and Technical Photography at 101, Great Portland Street, London, W., has Mr. John H. Gear, F.R.P.S., for Principal. All sections of photography are taught, and the popular course of twelve lessons at four guineas comprises the correct manipulation of the apparatus, optics as applied to general photographic work, development of plates and films, intensification general and local, spotting the negatives, and silver printing. Courses may also be taken in such subjects as platinotype, carbon, combination printing from two or more negatives, lantern slide making by contact or reduction, hand camera work, copying, orthochromatics, etc. Special instructions are given in the field upon landscape work, and advice is given upon the selection of apparatus.

The Yorkshire Photographic Union has issued a circular dealing with the lectures at the disposal of the societies in the union. There are some forty lecturers, most of whom offer the choice of two or three subjects.

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Messrs. Elliott and Sons call attention in the Barnet *Photographic Record* to the arrangements they have made for developing plates and films for those who entrust their exposures to them.

× × × ×

The spinthariscope, an instrument for demonstrating radium energy, invented by Sir William Crookes, has been placed upon the market by Messrs. R. and J. Beck, Ltd., of 68, Cornhill, in three forms at the prices of one guinea and half a guinea.

× × × ×

The new offices of Messrs. L. Allegre and Co., late of 59, Mark Lane, London, E.C., are now open. They are situate at 59a, New Oxford Street, London, W.C., in the building known as Oxford Mansions, and at the south-west corner of New Oxford Street and Shaftesbury Avenue. Messrs. Allegre report a growing demand for their papers, and their offices being now very central they are able to fulfil orders with more despatch than when in their city depôt.

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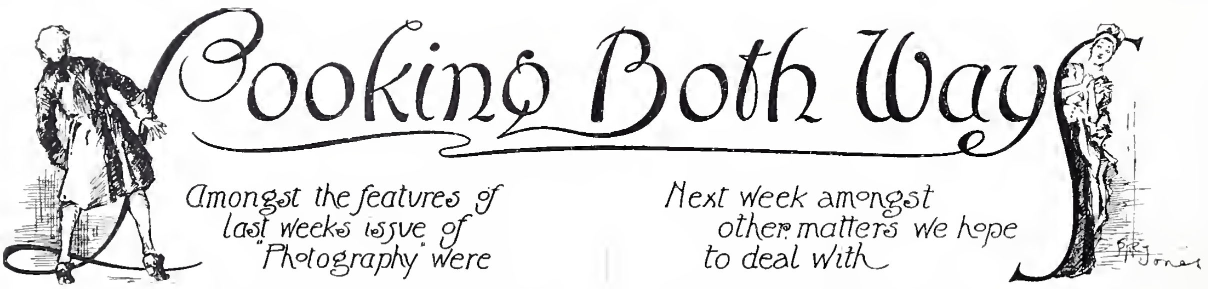
In the Warwick competition for the current month a prize of £10 has been awarded to Mr. Frank W. Gregg, of 37, Angell Road, Brixton, London, S.W.; and prizes of £5 each to Messrs. L. J. Glendening, "Faverdale," Woodville Road, New Barnet; T. Johnstone, Melville Drive, Motherwell; Joseph Ludlam, 115, Grasmere Street, Leicester; S. Swinden, 28, Conway Drive, Harehills Road, Leeds; and Miss S. C. MacMillan, 8, Woodbridge Road, Moseley, Birmingham. The entries for the next competition close on September 10th.

× × × ×

Messrs. Thomas Illingworth and Co., Ltd., of Willesden Junction, N.W., are trying a new experiment. They have in the past experienced so much inconvenience from arranging to let their assistants take their holiday at different dates, and thus disorganising each department in turn, that this year they will close the entire establishment from August 1st to August 10th. Messrs. Illingworth and Co. believe that the new arrangement will avoid disappointment in the matter of urgent orders.


Looking Both Ways
Amongst the features of last weeks issue of "Photography" were
Next week amongst other matters we hope to deal with
R. Jones

"Studio Work." The second of the series on this subject by David Blount.

Report of tests of the Goerz Sector shutter.

"A Moorish House." Written and illustrated by John H. Avery, court photographer to the Sultan of Morocco.

"Wells Cathedral." With many illustrations. By Frederick H. Evans.

Photographing the oscillations of an electric spark.

Acetone sulphite in mercurial intensification.

"The Relative Exposures in Studios and Rooms." An article by John A. Randall.

"A Photographer of Still Life." Some account of the work of Mr. John M. Whitehead, of Alva, N.B. Fully illustrated.

"On the Use and Abuse of the Substage Diaphragm." By Dr. Spitta.

"Chemical and Physical News." By Prof. Fergus J. McInnes.

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NOTICE TO CORRESPONDENTS.

All letters, advertisements, etc., must reach the office on Friday morning to ensure being dealt with in the issue for the next week. In cases of great urgency, letters delivered up to the first post on Tuesday morning may be in time to receive attention, but this cannot be guaranteed.

Communications for the Editor should be addressed, The Editor of *Photography*, 3, St. Bride Street, London, E.C.

In all publishing matters, letters, orders, etc, should be addressed, Iliffe & Sons Limited, 3, St. Bride Street, London, E.C.

Advertisement copy and orders, and these only, should be sent to the printing works. They should be addressed Iliffe & Sons Limited, Coventry.

LEADER

Whistler.

The death of James McNeill Whistler will but slightly agitate the even surface of photographic waters, and yet it is not too much to surmise that some few widely circling ripples of interest will reach thus far.

Upon the mind of the individual who makes a photographic print there may be little or no direct influence of Whistler; and even that little will probably be unconsciously received. Nevertheless, if a print show, to any degree, an effort towards that goal which is also the goal of modern painting, in that degree also the message of Whistler may be said to have come home. For he was a daring pioneer, and the deviations he wrought in the cause of artistic sensitiveness, and artistic desires, are far reaching and quite incalculable.

For the first time in the history of painting he demonstrated that art is not necessarily story-telling. He taught us to be content when outlines melted; when detail became lost in a plane of colour almost diagrammatic in its simplicity; when composition of the traditional sort was utterly eschewed; when, in fact, mere tone and colour were the means of an art which was art for its own sake.

At a time when the downrightness of the pre-Raphaelite method of faithfulness to material minutiæ was thought the acme of morals in paint, his representations of the disembodied spirit of a scene, freed from all corporeal trammels, was anything but understanded of the people. Whistler was thus necessarily misunderstood at the commencement of his career; but he has lived long enough to make his own public. Exhibitions have long since

known better than to reject him, and critics to-day do not court libel actions. Abuse and ridicule have given way, indeed, to a superlative praise that is often enough founded on a similar inability to see as he saw. What was once a "pot of paint flung in the face of the public" has become now something for collectors to scramble for.

Indifferent receptions of early years such as he experienced are common enough among geniuses; but the strong growth of popularity which in his case rose out of his disappointments is extremely rare. Whistler was not meek enough to wait beyond his lifetime for the turn of fortune's wheel. He had a sharp and ready wit with which he broke the swords of his adversaries. Laughing last, he usually laughed longest. This cutting and bombastic humour, together with his studied eccentricities, his charming impudence, the catalogues of his own exhibitions interlarded with the most violently adverse criticisms he could get together; the ten o'clock lectures in his studio that won him more admirers at that time than did the works they expounded: all this made him a darling of society. Thus he enjoyed popularity in the form of advances upon capital; but his future real reputation proved great enough to repay these drafts over and over again.

A hundred years and Whistler would find his place in the annals of art, whether his career had been one of disappointment or otherwise. Yet clever man as he was, he chose, in a winning way, to advertise himself, so that those who at first could not appraise him highly were led to take him at his own valuation. Thus he and his public were gainers.

He has been unfairly called a charlatan; but however much his methods smacked of quackery, the value of his wares cannot be for a moment denied. In fact, Whistler, the American by birth and the cosmopolitan by nature, was one of the truest artists of the last century, although the way to the true artist lay through the vestibule of the social lion. A small knot of artists knew him for what he was at a first glance, and his association with Degas, Legros, and others in Paris did much to strengthen his conviction of the merits he possessed.

His work may be defined as a seizure of salient points of the subject in hand, gleaming either from the dusky atmosphere of a darkened room or from the light of a scene at evening. He recorded his appreciation of those delicate differences of colour and quality that exist when masses are, together with their background, of one general tint. His portraits are designed simply, but have always a great dignity of line: his landscapes are tender and "precious" in colour.

As a decorative colourist he has gathered enormously from Japanese art, whilst French impressionism has given him a seductive elasticity in the realisation of form. From Velasquez, however, has he learnt his greatest lessons in portrait painting, in which branch his earlier works of Carlyle and the portrait of his mother still remain monumental pieces amongst the century's work.

To many his age of seventy will be a surprising fact, for it was difficult to think of Whistler as an old man. Of his many bonmots, two have become household words. "Why drag in Velasquez?" was his reply to a tribute offered by a lady that there were only two artists—Whistler and Velasquez.

WHISTLER.

And when told that the effect of one of his "Nocturnes" had been seen exactly on the Thames, he replied, "Yes, Nature is creeping up."

The term "nocturne" was only one of many he borrowed from the domain of music for the distinction of his works, which were frequently "symphonies," "arrangements," "harmonies," and "notes." And, indeed, these terms are most appropriate to an art so emotional and so abstract in its essence as is Whistler's.

INDEXES AND BINDING CASES.

With the end of June we brought to a close the fifteenth volume of *Photography*. As we announced, the increased size of the journal compelled us to issue it in half-yearly instead of in annual volumes as before. The index, which, like its immediate predecessors, has been compiled on a very full scale, so as to make it a complete and easily-used key to the volume, will be sent free of charge to any of our readers who may send to our publishers a stamped addressed wrapper for it. We are asked to point out that a note with a stamp loose, or even attached to it, does not comply with this condition. Applications for the index should be made to No. 3, St. Bride Street, London, E.C. We have also had a new binding case designed for the enlarged volume. It is in green cloth, as nearly as possible the tint of the wrapper of each number, and has a quiet decorative design upon it in black and gold. The price of the binding case is one shilling and sixpence, or post free one and ninepence. A copy of the index will be sent free with each binding case. Were our readers generally to use these facilities and to keep their copies of *Photography* and bind them up as the volumes finished, we feel sure that they would find them valuable works of reference. We are the more certain upon this point from the fact that by far the greater number of the queries that we get addressed to us are to be found fully answered within the files of the paper for the last twelve or eighteen months.

* * *

THE PHOTOGRAPHY OF THE MOON.

Among the numerous advances which have been made in the application of photography to all branches of science, we may perhaps select astronomy as being the one to which the dry plate has made the most difference. M. Lœwy, the noted French astronomer, at a recent meeting of the Académie des Sciences, showed some new charts of the moon which possessed very remarkable detail, and were superior to anything that has been obtained previously. These prints have enabled certain points to be assigned some definite position about which up to the present there has existed some doubt. M. Lœwy thinks that he can assert that the white trails which radiate from some of the principal craters, trails which sometimes extend for over two hundred and fifty miles, are deposits of volcanic ashes. At the time when these volcanoes were active, the moon had a light gaseous atmosphere, and the seas (that is to say the huge depressions to which the name "sea" has been applied) should have contained some liquid element. These new observations, says M. Vidal in *Le Moniteur*, have enabled astronomers to fix the chronology of the phenomena which have been successively displayed on our satellite, and to determine the relative ages of them. "Without insisting on the hypothetic character of these assertions, we confine ourselves to remarking how important is the *rôle* of photography in making astronomical observations, chiefly on account of its acute vision, or, in other words, the sensitiveness of present day dry plates."

* * *

A SCHOOL OF PICTORIAL AND TECHNICAL PHOTOGRAPHY.

Much discussion has taken place at different times on the comparative merits of tuition given at schools and that received in the course of business in a commercial house. It has been said that scholars at the former drop into a leisurely amateurish method of working which is quite out of place in the bustle of an establishment in which work has to be turned out at a profit. On the other hand, the instruction given by a commercial firm must be limited to the work which forms the staple of the business; and amid the bustle which makes for rapid manipulation there can be but little time for studying first principles even when the working head is capable of conveying them. For the apprentice who has to earn his future living by the practice of photography, it would appear that a combination of both descriptions of training would be advisable; while for him who takes up the work for pleasure only, the acquiring of leisurely methods at a school is a matter of less importance. Even in this matter, however, much must depend upon the tutor. At Mr. Gear's school, particulars of which will be found elsewhere in this issue, the principal Mr. John H. Gear, is by no means likely, either by training or character, to fall into that error. He is himself a man of strenuous business habits, a partner in a commercial house, and at the same time a man with wide pictorial sympathies, and with a practical working knowledge of photographic processes. Under such conditions the pupils have every opportunity of acquiring a sound knowledge of the theories upon which the various processes are based, together with an intimate acquaintance with workshop methods by which time is economised. It is of all such institutions that one which has our heartiest recommendation.

* * *

DIRECT COLOUR PHOTOGRAPHY.

Our readers may remember the references we made some time back to the direct methods of colour photography. These were ways of reproducing the colours of a transparency that is itself coloured, by bleaching out certain dyes in conjunction with hydrogen peroxide. Herr Karl Worel and Dr. Neuhauss both went thoroughly into the matter, but not until the present issue of *Photographische Rundschau* have we seen a formula which may be said to be simple and economical.

The plates are coated with a ten per cent. solution of good, clear gelatine, to which has been added six per cent. of a one in five hundred solution of methylene blue. one and a half per cent. of a one in five hundred alcoholic solution of auramine, and three per cent. of a one in two hundred solution of erythrosine. The plates are bathed before exposure for five minutes in a ten per cent. ethereal solution of hydrogen peroxide. It seems that, apart from the interest attaching to the process, colour photography is being attacked from the wrong end altogether. Of course, if a Lippmann interference photograph could be used as a coloured transparency, and printed from upon some such paper as Dr. Neuhauss suggests, the solution of natural colour photography would be practically solved. But it could not; and the bleaching method, as above described, seems only to be applicable to copying coloured transparencies. It is hardly likely that it could be made fast enough for direct photography.

* * *

THE SPINTHARISCOPE. Radium has been so much in evidence lately, and so much has been written and said upon the subject, that it was only a question of time when an instrument of convenient form for the use of those interested in, but not actually engaged in, scientific pursuits, would be placed upon the market. The theories that are being evolved have such a wide-reaching application that many are attracted to the subject who are not in a general way interested in physics. An instrument invented by Sir William Crookes, and called the spinthariscope, is now to be obtained from Messrs. R. and J. Beck, Ltd., and is made in three forms. With one of these, the scintillating effects produced by the bombardment of the fluorescent screen by the minute rays or atoms of radium may be studied. The examination must be conducted through a high-power glass, by placing the microscope slide, which is the form one of the instruments takes, under an object glass of about 1½in. power, or by inspecting the fluorescent screen through the lens, which forms part of the other forms of the spinthariscope. It is characteristic of modern science that the ablest minds should devote themselves to devising means whereby the most abstruse manifestations of energy should become patent to Lord Palmerston's friend, "the man in the street."

* * *

CARBON TRANSPARENCIES IN ENLARGING. Whilst many photographers find no trouble in making direct enlargements upon bromide paper, the number of those who make and work from enlarged negatives are comparatively few. This is a matter for regret, for, apart from the fact that the bromide print possesses only a qualified permanency, the worker is limited in many other ways. The best direct enlargements are made from negatives which do not exhibit the qualities best suited for contact printing, and *per contra*, if the negatives are intended primarily for, say, carbon work, there will be a distinct falling off in the enlargement. In working from an enlarged negative, not only may the prints be made by contact upon any class of paper, but there need be no alteration in the gradation of the image. Mr. L. Bryson has some pertinent remarks in the *American Amateur Photographer* upon the desirability of making the positive transparency, from which the enlarged negative is produced, by the carbon process, and, while we agree with him in his choice, his methods of working call for a certain amount of criticism. The difficulties into which a worker who followed his instructions implicitly would fall are just those which the inexperienced photographer would be likely to meet with if he were to experiment by the light of nature. We are told that the tissue after printing is to be immersed in slightly warm water till it begins to uncurl, when it is to be at once squeegeed upon a perfectly clean glass plate, kept under pressure for fifteen minutes, and then developed with warm or hot water. So far from there being any necessity to warm the soaking water, means may have to be taken to keep it cool in summer weather; 65° Fahr. is a good temperature. The suggested use of a perfectly clean glass plate is the point which calls for particular attention. Unless care has been taken to de-aerate the water used for soaking the film in, by boiling it and letting it cool, the film is almost certain to strip from the glass.

"Sonnie" (see page 71) *By Mrs. Barton.*

A Technical Report upon Photographic Paper.

[The following account of paper used for photographic purposes is from the pen of Dr. Scava and appeared in "La Revista Tecnica," from which it was translated by our contemporary "The British and Colonial Printer." While it is not without inaccuracies, it is still so complete and painstaking that it will doubtless prove interesting to many of our readers, some of whom perhaps have not before given a thought to the care and skill which are employed in the preparation of the raw product which is the basis of the P.O.P. or other sensitised paper they use. We have condensed the report somewhat.—Ed.]

THE manufacture of raw paper for photographic purposes demands sound technical knowledge, skilled workmanship, raw material of the finest quality, and special plant. Consequently only large mills making a high quality product can undertake this particular industry. We can understand, therefore, how it comes about that almost the whole world is supplied by two firms, viz., Blanchet Frères and Kleber of Rives (Isère), France, and Steinbach of Malmedy (Rhenish Prussia); their products being styled "Rives" and "Steinbach" or "Saxe" respectively.

I have analysed some samples of this paper, with the result that the approximate percentage of used flax was eighty-five, and that of new cotton fifteen. The sizing was resin and starch mixed. Resistance to crushing was slight considering the nature of the pulp, which had a short fibre; the average elongation was thirty-four per cent., and the average length of rupture 2,500 metres, in an atmosphere containing sixty-five degrees of moisture (Regnault hygrometer). The humidity of the paper was about six per cent., and the percentage of ash three to four, and sometimes nine to fourteen, composed essentially of kaolin and baryta. Other German firms are endeavouring to manufacture photographic paper resembling this product both in composition of pulp and quality. These are F. Scholler, of Burg Gretesch, in Westphalia, and G. Roeder, of Marschendorf, in Bohemia.

The great difficulty is to make paper free from particles of iron and copper. These impurities, due to the steel knives of the rag cutting machine, or bronze of the Hollander, scarcely amount to traces, but may cause dark spots when the paper is employed for photography, owing to the action of the nitrate or other silver salts in sensitising the paper. It is impossible to remove every particle of metal by treatment with dilute acids, but this might perhaps be done by the aid of the new process of Dr. E. Laudenheimer, of Darmstadt, which is based upon the employment of an oxidising agent This process consists of treating the pulp or the paper with acid solutions of peroxides or persulphates to form soluble iron salts. By thorough washing all trace of the reagent is then eliminated.

Rags must always be employed for making photographic paper, wood fibre, chemical cellulose, and mechanical wood pulp may cause the paper to turn yellow. Sizing is of great importance, for if weak it would allow the emulsion to sink deeply into the paper, which would then give weak flat prints.

In analysis, a good Rives paper gave about three parts of soap resin per one hundred of pulp. An addition of starch gives the paper the requisite rigidity. Animal size makes the paper too rigid, as the sizing is superficial, and is decomposed in the photographic solutions; moreover, it gives the print a reddish tint. The paper must always be of an uniform thickness.

Owing to the delicacy needed in treating the raw materials and their expense, one can easily understand how the two chief works, viz., those of Rives and Malmedy, have almost completely monopolised the market. The General Paper Company, of Brussels, says Dr. Scava, has purchased the production of these two works, resells a limited amount to German manufacturers at a profit of from 11d. to 2s. 3d. per lb., and supplies England, North America, and France at a better price.

It is interesting in this connection to note the import duty into various countries: United States, 1s. 7d. per lb.; France, 9d. per lb.; Switzerland, ¾d. per lb.; Spain, 1¾d. per lb.; Italy, 1¾d. per lb.; Russia, 9½d. per lb. In Germany the duties are less in this case, and in 1901 the imports were fifty tons worth £20,000, while the exports are given at three hundred and thirty-eight tons, valued at £155,000.

Coating the paper with baryta for P.O.P., etc., demands many precautions. Pure baryta must be used without any trace of iron, mixed with the finest size in wooden vats, avoiding the use of mixing machinery, which easily produces bubbles in the paste and little holes in the coating. The baryta paste is hardened with pure alum, made fluid with glycerine, and coloured. It was anything but an easy matter to find a suitable colouring, and even at the present day this is a manufacturing secret. The material thus prepared is strained and spread over the paper, which is then passed through the rolls of a machine similar to that employed for ordinary paper, care being always taken to keep the baryta and paper out of contact with the iron and bronze by utilising rolls covered with indiarubber. When dried by a moderate heat, so as to prevent the size hardening too much, the paper is calendered.

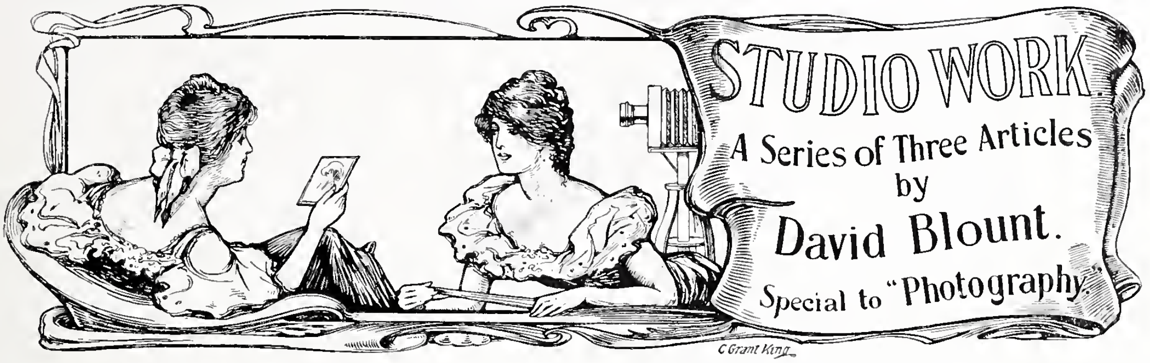
Germany supplies large quantities of prepared photographic paper from the Act. Gesell. fur Buntpapierfabrication, of Aschaffenburg; G. B. Weber, of Offenbach; G. u. Beneke, of Lobau (Saxony); and Steinbach, of Malmedy. In the United States there are about forty works manufacturing this paper by the Bradfisch process.

A defect of this prepared paper is that it may turn yellow. Whether this is due to the baryta or to the sensitising coat one cannot say. However, it has been shown by experiments that some paper is affected in this manner much more by one sensitising bath than by another. Endeavours were made to remedy this by mixing citrates or tartrates with the baryta which react with the sensitising silver salts liable to sink into the paper. Now, however, this method is almost abandoned.

In bleaching the cellulose for manufacture of the paper one should avoid as much as possible, by checking the action of the chloride of lime, the formation of secondary products from cellulose, which weaken the fibre and destroy the whiteness of the pulp. It is also requisite to employ an antichlor, usually hyposulphite, as it is not possible to remove these products completely by simple washing. Then one must get rid of all trace of the hyposulphite itself. To ascertain whether any free hyposulphite remains in the paper after employing it to remove chlorine, a sheet of paper is boiled in distilled water, and silver nitrate added to the filtrate. The absence of any brown coloration shows that there is no hyposulphite. When, however, a small amount of hyposulphite is employed in bleaching, free hydrochloric acid is readily produced in the reaction, which is injurious to cellulose.

The presence of free acid in a pulp is detected with test paper. Iron can easily be detected, even in slight traces, in a weak hydrochloric acid solution of the ash. The materials used for colouring the paper may also be hurtful to the sensitiser, especially ultra-marine, which readily decomposes, producing sulphuretted hydrogen which attacks the silver.

Microscopic examination will reveal the composition of the pulp. For this the latter is boiled for a length of time in a one to two per cent. solution of soda. When reduced to a thin paste, a part is carefully washed and coloured with tincture of iodine on the glass object holder of the microscope. An uniform reddish brown colour indicates the presence of fibre from pure rag, and the structure of the various elements will make it possible to detect the presence of flax and cotton, and very approximately their percentage in the pulp examined.



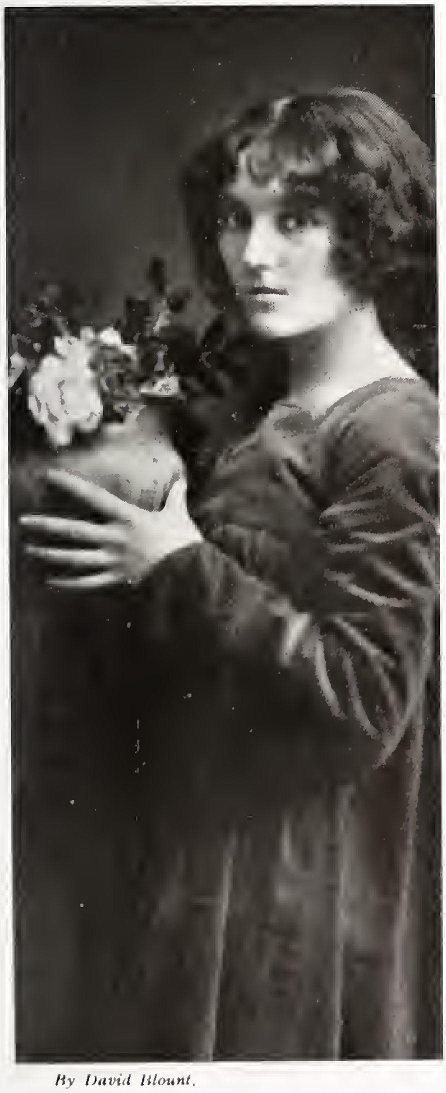
STUDIO WORK.

A Series of Three Articles by David Blount.

Special to "Photography."

III.

ALTHOUGH it may be granted that the arrangement of massed lights and shadows, and that the general concentration and simplification of a picture should have its origin in the studio, yet there are many who leave a good deal of this to be done by subsequent processes of dodging. These in some cases may even be successful, and by some chance or other may produce an artistic result, but in every case the artist ought to be able as it were to visualise—or really, I should say, actually to see—what he is aiming at from the beginning, and be able to get it, by so arranging his high lights, half-tones, and shadows. That is as good as to say that, provided he has anything of the artist in him, there ought to be no trouble whatever in securing the idea or perception he wishes to portray in the finished work.



By David Blount.

I do not assert that the photographic negative cannot in some cases be improved somewhat during development (although I believe these cases to be remarkably few), but why should it be left until the plate is being made into a negative, to be remedied by a sort of conjuring in semi-darkness, when by intelligent work in the studio itself, all this could be avoided, and a more satisfactory result obtained.

To obtain concentration and the subordination of small detail, it is the practice of many photographers I know to arrest the development of the negative in parts by using a restrainer, bringing about a sort of local development of those parts and the suppression of anything that may appear obnoxious to the artist. A comparatively hurried process like development, which cannot be stopped or started at will, gives the photographer little time to think. This, it seems to me, is working the wrong way round, and I cannot see that it is possible to get correct tone values by this very crude way of doctoring the half-made negative. Personally, I would rather choose some printing process that possesses sufficient elasticity to enable me to accentuate, to suppress, or to exaggerate any point at will.

I leave these remarks for what they are worth to the thoughtful reader, only saying that the proper course to obtain careful balance of light and shade, meaning, and harmony of tone, is by the application or arrangement of the devices which the worker may have in the studio for filtering, softening, or reflecting the light.

In this place I cannot go into the subtleties of portraiture with regard to expression and so on—they would indeed require two or three articles to themselves—nor into the characteristics of the model or sitter. It must suffice if I have shown by the illustrations something of the rudiments of lighting—which is one of the most important factors of portraiture. While they will give some idea as to the various effects of lighting that can be produced in quite an ordinary glass house, I want the important part the background plays in this to be noticed. How, in illustration No. 3, the background is high in tone, and shows exactly every shape or form of the model in outline against it, thus producing harshness, solidity, and no feeling of atmosphere? The figure appears to have been cut out, and stuck on to the background. I am very sorry to say a great number of workers aim at this method of getting relief in their pictures, and, what is more, the majority of the public think it the correct thing. "It stands out so well," they say, or express their approval of this class of work otherwise, by saying "It is so clear," or by some other equally intelligent remark.

In the next illustration, No. 4, a very much darker background has been used on the same sitter. The advantage is, I think, obvious.

I do not wish my remarks to be construed into saying, "Do not use a light, but always a black background." There are times when both are necessary, and add greatly to the picture. To refer again to the illustrations Nos. 3 and 4, it will be noticed how the awkward lines of the arms are merged in shadow in the latter, having only sufficient light to differentiate them from the background, and how the face has gained strength and luminosity in comparison with the blackness of the other. The light in this has also been improved with regard to its concentration; the lighting on the clothes and hands being softened.

It is the licence of an artist to emphasise or to give force to good lines, and to suppress or to lose bad ones. Certain lines are necessary to and are part of the composition; these, of course, must be retained. By altering the tone of the background, the various lines may be thrown up or

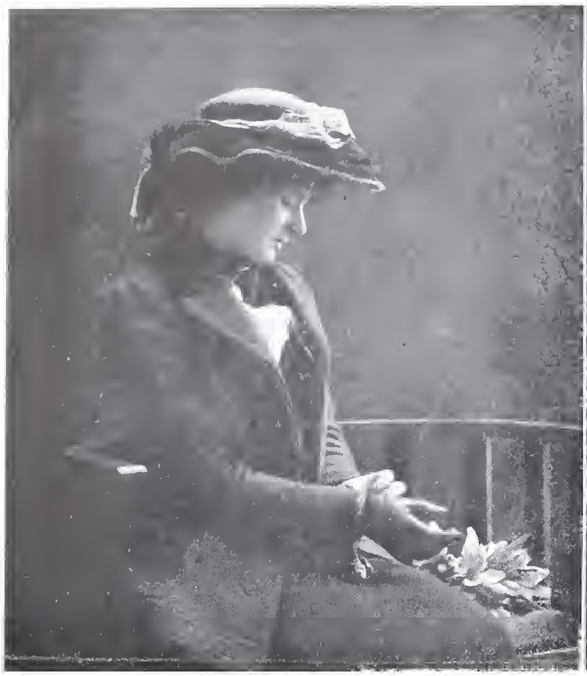


Fig. 1.

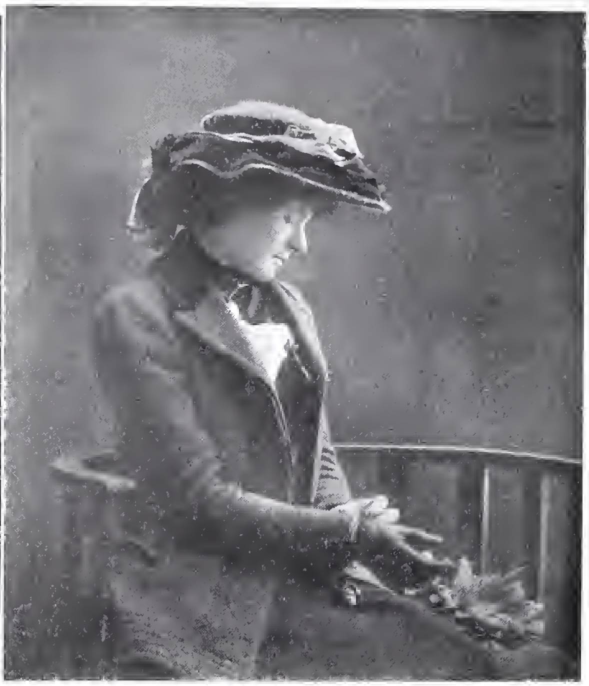


Fig. 2.

accentuated, and other lines that appear awkward may be lost or merged into the tone of the background. The illustrations, I hope, will give a fair idea of my meaning in this respect, and are intended to demonstrate the use of the background in the direction I have mentioned.

I have previously referred to simplification and concentration, and the two examples here given show, in one, suppression of minor detail, giving prominence to the face only, whilst in the other, the light being all over the place, all oneness and repose is lost, the detail that worries the eye and ruins the picture not being omitted. The former gives correct tone, and the whole picture seems to hang together; the latter may be regarded as a good example of what to avoid. Nos. 1 and 2 are simply examples of harshness in the one case, and the softening and concentration of the light in the other.

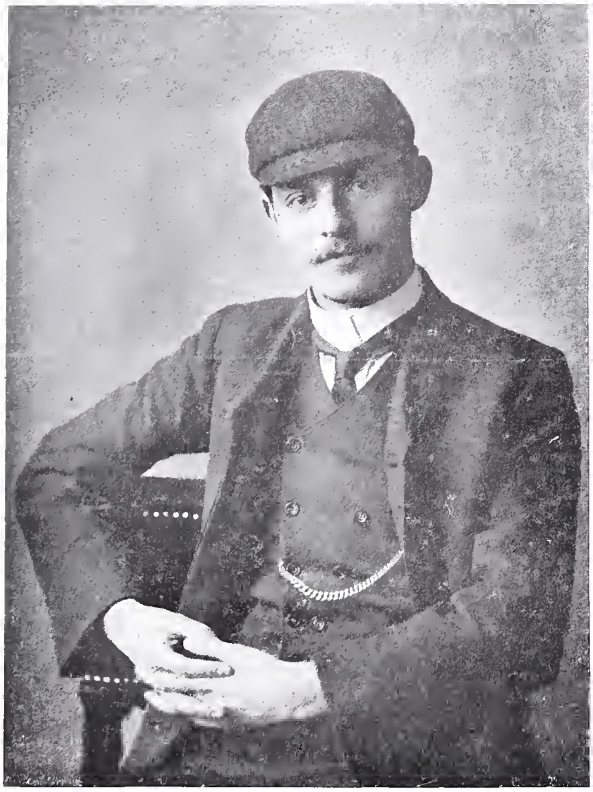


Fig. 3.

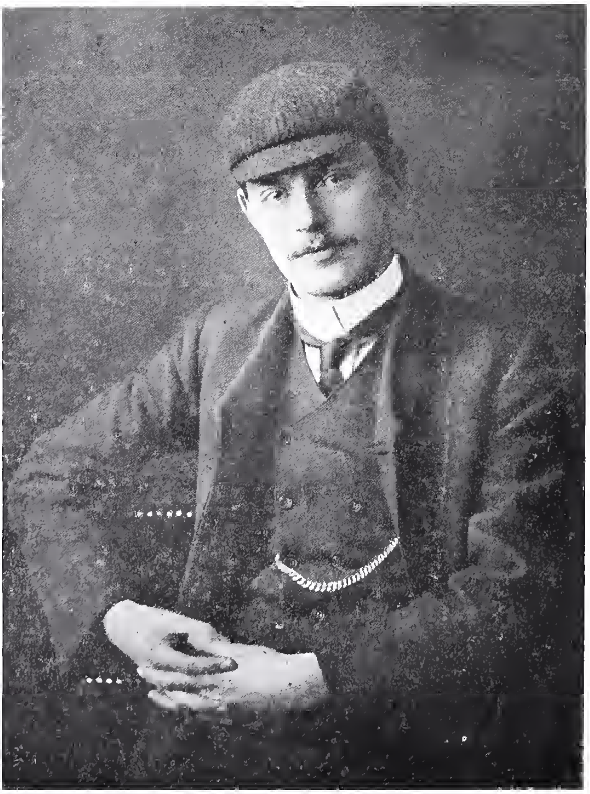


Fig. 4.

The Artistic Mounting of Photographs. By P. M. Riley.

THE mounting of the photographic print is perhaps the most neglected detail of picture making. In fact, many beginners think the battle is won when a satisfactory print has been made, and that it can easily be mounted on any of the prepared mounts to be got from the dealer. This careless view of the matter has spoilt many a good attempt. It is the worker who spends the most time deciding how best to mount his print that wins the prize.

Every print has some dominating tint or colour. The ordinary glossy papers give brown and purplish tones; platinum, bromide, and all the gaslight papers give blacks, whites, and greys; there are also papers giving blue, green, and sepia tones. The proper mount for any print will either harmonise with this dominating tone or contrast with it.

Mounting in harmony is much more common than mounting in contrast, as it is easier and the results are usually more satisfactory. Using this method, the mount which continues the predominating tint of the print is the mount to use. With this principle in mind, the way is clear. The beginner ought to avoid such errors as mounting black and white prints on brown and green mounts, or prints with purple tones on gray mounts.

Prints made on platinum, bromide, or any of the gaslight papers may be mounted to advantage on black or grey cards of any depth. Platinum sometimes looks well on pure white, but generally it is richer on black or dark grey. Prints on any of the gaslight papers which show greenish or brownish blacks may be corrected in mounting by the use of greenish or brownish mounts which must be carefully selected with reference to the print.

It is well to put the print on a number of different mounts to try the effect of each before fastening it down. In this way the most effective shade can nearly always be selected at once. A very flat print can very often be made to appear more brilliant on a jet black mount, while the beauty of a soft print, without pronounced high lights or deep shadows, will be greatly enhanced by a medium grey mount of about the same tone as the print itself. The defect of a pure white sky can be partially rectified by mounting the print on white filter paper or ribbed charcoal paper, while the same print on grey would assuredly be very distasteful.

There are no colour contrasts to black and white. Each contrasts with the other, and between these is the whole gamut of greys. The amateur will do well to mount his brown, sepia, red, green, blue, and other toned prints on mounts continuing their predominating tone, unless he has at least a primary knowledge of complementary colours.

Contrast mounting is largely a matter of dangerous experiment. It is always well to avoid the brighter contrasting colours, although a bold, strong print should be given a strong backing in the mount, while a more delicate print with fine detail should be more carefully handled. If the result is pleasing to the eye and displays the print—not the mount—it is a success.

As to mounting surfaces, the prepared mounts, especially those embossed with various designs, should be avoided, as they attract attention from the print and are not artistic. There are many beautiful dark mounting boards and papers which are much better. The mounting surface should never be glossy, as the glossy surface reflects the light which should be absorbed, and takes the attention from the print. The "cover papers" used for pamphlet covers make fine mounting surfaces, and can be secured in practically unlimited range of colour and tone. Parchment, ragged-edged linen, and Japanese papers are frequently useful for very delicate effects. Nearly any large printer is prepared to furnish these papers in sheets about 20in. by 25in., which can be easily cut to any size needed.

The size of the mounting paper is an important factor and a matter of individual feeling. In general, a large print requires a smaller proportion of space for the mat, as compared to the print, than a small one—12in by 10in. is a very useful size for 5in. by 4in. and 7in. by 5in. prints, although each print should be studied and the mounting carefully planned for its special needs. The tendency is usually to use too small mounts. This is especially true of exhibition work. Large mounts isolate the prints from each other, allowing each to make its own impression.

Formerly it was the custom to mount in the middle, but a print will nearly always appear to better advantage if mounted somewhat above the middle of the mount, because the "weight" of a picture is usually at the bottom, giving it the effect of being placed lower down upon the mount than it really is. Carbon, gum, platinum, and all prints on heavy paper may be fastened to their mounts by applying a little paste at the corners. Thin prints, if they are at all inclined to curl, must be pasted down. A good mounting paste should be applied with a brush, using as little as is strictly necessary, but rubbing it well into the paper. A print roller is necessary, and the print, when in correct position on the mount, should be covered with a clean blotter and rolled into firm contact. The mounted print will dry nearly flat if kept between blotters under pressure for a few days. If a perfectly flat mount is desired, it can be secured by mounting on the back another piece of paper the same as the print. *(The Photo-Beacon.)*

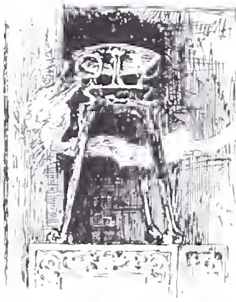
The Newest Style in Portraiture—Etchographs.

IN the United States the combination of pencil sketch and photograph for portrait work, introduced by Strauss, of St. Louis, under the name of "Lytrit" portraits, recently had a great vogue, and one that is increasing. It has its limitations, however, as the artistic skill it requires is only within the reach of a few photographers. We have already commented upon the weakness of and inherent objections to this hybrid method, but none the less there are plenty to whom it appeals, and to them we may commend the following notes:

The latest contribution to the subject is from the pen of Mr. A. L. Jackson in *Camera Craft*, who styles the results of his method, "Etchographs."

Mr. Jackson tells us that the results are in all cases enlargements, and that the working up is done on the back of the positive. The subject is placed before a white background, no accessories being used, and the negative made on a whole-plate, no retouching being done on it at all. The negative thus described is taken and placed in the enlarging camera, and a positive made on a 10in. by 8in. plate. The back of the positive is coated with a matt varnish, which gives a splendid tooth for an ordinary soft lead pencil, taking care, however, to let the varnish dry thoroughly before beginning to work on it. The retouching frame is a good place to do the drawing, but Mr. Jackson says he prefers to work before a window on an ordinary table. By slanting the positive at an angle of forty-five degrees or more with a white paper under it, one can see beautifully. The ground-glass effect the varnish gives it makes the light excellent. There is no need to confine one's self to the pencil for drawing, for the varnish surface takes ink quite as well as pencil. Whatever may be said of this style of work, there is one thing none can deny, and that is that it gives an unlimited field for the cultivation of the artistic ability that a photographer may possess.

The success or failure of the picture depends of course entirely on the ability of the photographer to draw well. After the background has been drawn in as seems suitable and completely finished, all the ground-glass varnish is carefully scraped off the face and hands, for the reason that in making a negative from this positive the face would otherwise be a little blurred from the diffused effect caused by the varnish, but this very diffusing only adds to the other parts of the picture. Mr. Jackson tells us that he always copies both positive and negative with the film side of the plate away from the exposed plate, for the reason that the results are better, and also because it is best to have a regular system in order to prevent an occasional reversed negative.



Chemical & Physical News

A weekly summary of those sciences upon which all photographic processes are based

Specially compiled for Photography by Prof Fergus J McInnes

THE CANALS ON MARS.

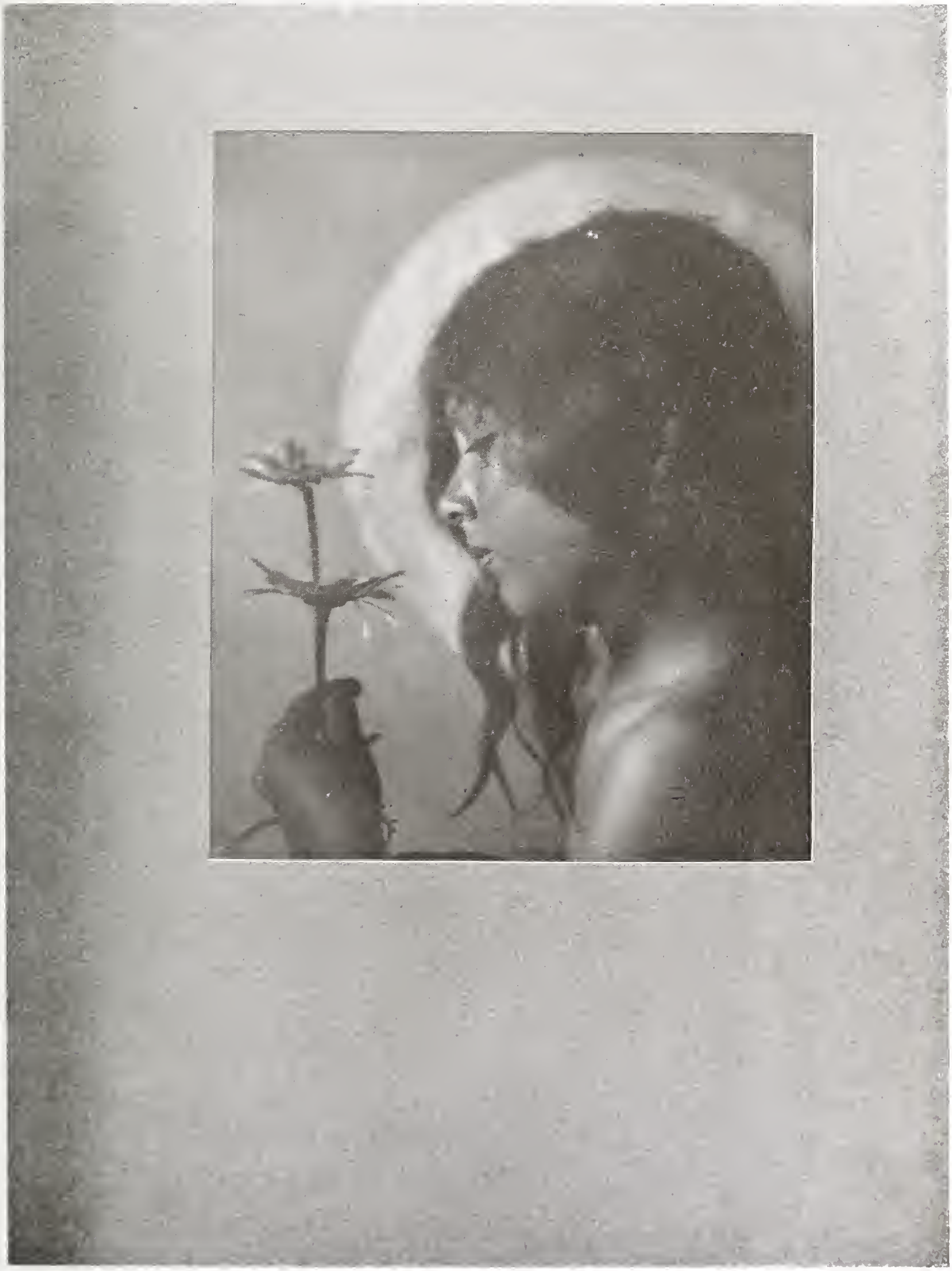
THE possibility of the existence of life in our neighbouring planet Mars and the physical conditions of such existence has for long been a fertile source of sensational paragraphs in our daily press. Reports of signals having been seen, showing attempts to open up communication with this earth, crop up with as frequent regularity as the big gooseberry. In the current number of the *Scientific American*, Mr. E. Ledger has a paper on the subject of the alleged canals said to have been seen intersecting the greater portion of the surface of the planet. All who have seen them, he says, have been puzzled by their number, the complexity of their interlacing and triangulation, their visibility when the disc of the planet is of very small size, their straightness, and their immense length, which in some cases is from three to four thousand miles, and their uniform great breadth, in different instances estimated at thirty, forty, or even sixty, miles. This breadth has naturally suggested that, at any rate, it must be a mistake to imagine them lines of water, but more likely they are lines of vegetation extending along a canal of water too narrow to be seen. It is to be noted that the narrowest line which it is considered a telescope could reveal upon Mars must be eighteen miles in width. Visibility of the lines is greater at some times than at others. Probably the climate of Mars is very dry, the atmosphere of small density, clouds rare, and the land mainly desert. Nevertheless white spots are seen round its poles, which are termed polar snows. These wax and wane with the alternation of the summer and winter of the two hemispheres, and are most likely not of great thickness, as they sometimes almost disappear in the height of their summer. Lowell has strongly maintained that the melting of such a snow cap forms a sea of water round its boundary, from which a supply gradually finds its way into the canal system, causing vegetation to spring up, as on this earth it does along the bank of the Egyptian Nile. The circular spots observed at the intersection of two or more canals might be fertile oases in the midst of the surrounding desert. After discussing various hypotheses he goes on with a delightfully *non sequitur* style of reasoning to remark that as the general appearance, as well as the exceedingly complicated interlacing and arrangement of these numerous so-called canals, is therefore of so puzzling and enigmatical a character, he thinks it might well suggest the question, are they there at all? He thinks it probable that the so-called canals (with the exception perhaps, of a few of the darkest and most prominent of them seen with low powers) may not really exist in Mars, and also that the apparent doubling may be also a delusion. That they are produced by the observer's eye after long straining and by a subtle influence which is often conjointly effective upon the brain and nerves of the observer.

EFFECT OF TEMPERATURE ON RADIATORS.

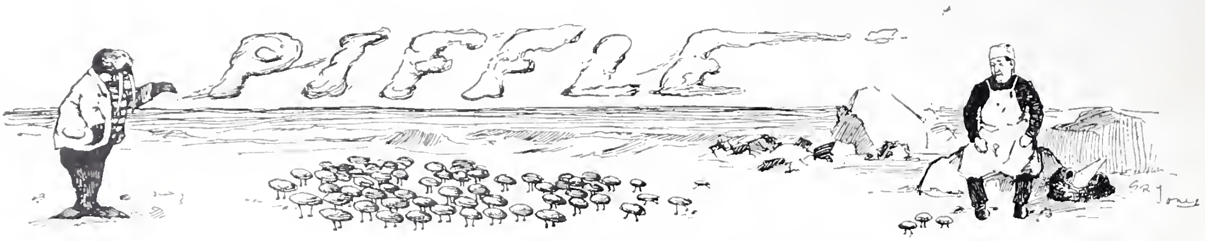
AT the last meeting of the Royal Society, Prof. Crookes made a communication upon the effects of low temperature on the radiations from radium. The first endeavour was to find whether the scintillations which are produced by radium on a blende screen were effected by cold. A small screen of blende with a morsel of radium salt close in front had a lens adjusted so that the scintillations could be seen. On dipping the whole into liquid air they grew fainter, and finally ceased altogether. Some doubt was felt whether this might not be caused by (1) the presence of liquid, or (2) by the screen losing sensitiveness, or (3) by radium ceasing to emit the heavy positive ions. To test this two tubes were made; in one the radium salt could be cooled without the screen, and in the other the screen could be cooled whilst the radium salt was maintained at the ordinary temperature. The results were as follows: (1.) When the radium salt was cooled by being immersed in liquid air, and the screen at the ordinary temperature, the scintillations upon the screen were quite as vigorous as with radium at the ordinary temperature, the screen and radium being *in vacuo*. (2.) With the radium at ordinary temperature, and the screen cooled by liquid air, the scintillations became fainter, and at last could not be seen at all. On allowing the temperature to rise the scintillations recommenced. (3.) A screen with a speck of radium salt in front of it was sealed in a tube. The tube was sealed off when a few drops of water remained in it. The scintillations were well seen in this saturated water vapour. The lower end of the tube was dipped in liquid air, which instantly condensed the water vapour, and left a very good vacuum. On now examining the scintillations they were, if anything, brighter than at first. On cooling in liquid hydrogen instead of air the action was equally marked, showing that the highest vacuum that could be obtained by the action of extreme low temperatures does not diminish the scintillations. In order to test the activity of radium in rendering air conductive, radium bromide was sealed in a glass tube, and heated to the highest temperature the glass would stand during the production of a vacuum by the mercury pump. The whole tube was then immersed in liquid hydrogen, contained in a vacuum vessel. On bringing the radium in such condition into a room in which a charged electroscope was placed, it began to leak when the tube containing the radium was still 3ft. away, and was very rapid in its action when only 1ft. away from the electrometer.

CHEMICAL EFFECT OF LOW TEMPERATURES.

A NUMBER of experiments of great interest have lately been carried out by Professors Moisson and Dewar upon liquid fluorine at low temperatures. As fluorine is one of the most active bodies known, the experiments serve to demonstrate what becomes of chemical affinities at such low temperatures. The work was difficult to carry out for two reasons: (1.) Any substance cooled to —100°C. or —150°C. attracts moisture from the air with great avidity, and is at once surrounded with a coat of ice, which is often solid and transparent, and thus suffices to prevent all reactions; and (2) the superficial combination which is sometimes produced also limits the reaction. This second effect—which, for instance, is produced when sodium is acted upon—is all the more important, as we scarcely know anything about the solubilities of simple or compound substances in liquid gases. To prove that chemical affinity still holds good at very low temperatures, they undertook the study of the action of fluorine upon different bodies by substituting the liquid for the gaseous form. The body to be studied was placed in a glass tube of small diameter, and carefully dried. A tube 6in. or 8in. long was sealed up at the ordinary temperature to avoid absorption of moisture. It was then placed in liquid air at a temperature of —190° C. On the other hand, the fluorine was liquefied in a tube of much greater diameter than the tubes containing the samples. At the moment of making the experiment the end of the sample tube was cut off, and it was inverted quickly into the liquid fluorine. By lifting it up the body is allowed to fall into the liquid. A great variety of simple and compound bodies were studied in this way, and many gave very interesting reactions at this low temperature. Iodine, however, which takes fire in fluorine gas and forms the pentafluoride of iodine, has no reaction on liquid fluorine. Pure liquefied oxygen also has no reaction with liquid fluorine at —187°C., and by allowing the temperature to rise, each of the two simple bodies separates at its boiling point. Sulphur at once burns, forming sulphur hexafluoride. Red phosphorus also, when dry, burns, giving phosphorous pentafluoride, which is rapidly solidified, and afterwards takes the gaseous form. Arsenic also combines with great violence and a blue flame. Nitrogen has no reaction either at ordinary temperature or when both are liquefied. Antimony falls to the bottom of the liquid, and is unattacked. Different forms of carbon, also crystallised silicon and amorphous boron, have no action on liquid fluorine. Small portions of wood charcoal and lampblack let fall into the tube containing the liquid became incandescent whilst falling through the gas,. but were extinguished by contact with the liquid fluorine. Sodium remains brilliant when in the liquid, but is covered by a thin layer of sodium fluoride. Potassium does not react at once, but after about twenty seconds interval combination takes place with a violent explosion, which shatters the tube. All these experiments show therefore that at a temperature of —187°C. the chemical affinity of fluorine is still sufficient to ignite sulphur selenium phosphorous and arsenic.



St. Margaret (see page 74). *By Mrs. Barton.*



"The time has come, the Walrus said, to talk of many things."

MANY sins may be laid to my charge, but I can honestly plead not guilty to having drawn the design at the head of this page. My ignorance is colossal, but I *do* know that oysters are bivalves and not bipeds. Of my own portrait I say nothing; but I may here inform the artist that my heraldic crest is a very sable fist rampant in a sinister field (or meadow) vert with patches sanguine, and the motto "I smite but once." As for the Carpenter, he can fight his own battle. I see his saw, and the bag for carrying away the artist's head, so he evidently means business. For once.

* * *

On more than one occasion I have seen an enthusiastic photographer in a railway carriage propping a printing frame against the window with his shoulder. I have also seen an ultra-enthusiast walking along the streets with a frame held in his hand; and on one occasion I saw a London shoeblack with an array of quarter-plate frames around his brush box, and in the intervals of an apparently slack business he examined the prints with a critical and knowing air.

* * *

And now I hear of a cyclist-photographer or photocyclist who has erected a fakement on his handle-bars for supporting frames, so that he can take a ride and yet not neglect his prints.

* * *

There is a crying need in this country for increased asylum accommodation.

* * *

In this idea, however, there lies a suggestion for the professional photographer whose premises are situated in a dull, smoky town, such as—well, I won't mention names. He should set up forthwith a carrier tricycle with a flat top to the box on which to place the frames, and have spaces inside the box for negatives and paper. He could then despatch his junior assistant for a spin in the clearer extra-mural light. Thus would he get his prints made more expeditiously, and the cost of the tricycle would soon be recouped by means of the decreased wages accepted by an assistant, who could thus combine exercise and pleasure with business.

* * *

It has happened that when, in these columns, I have related a plain unvarnished tale I have been referred to in another paper as the Munchausen of photography. What should I have been called if I had detailed the following circumstances on my own authority.

* * *

In a certain ground-floor room with a red blind a murder was committed for which a perfectly innocent girl was convicted and sentenced to penal servitude. After eighteen months of convict life her innocence was clearly established by the discovery of the real culprit. And how do you think he was discovered? Thusly. During the perpetration of the crime a thunderstorm was raging, and an exact likeness of the murderer and his victim was photographed on the glass door with the red blind by a flash of lightning. This beautiful permanent glass positive was discovered eighteen months after the murder. Virtue triumphant. Villainy unmasked. Nemesis. Retribution. Curtain.

* * *

I repeat, what should I be called if I related stories of this height? And yet these facts (?) are solemnly set forth and elaborated in a volume of The Masterpiece Library. Who says Munchausen now?

* * *

Why, years ago, when the kinematograph was a novelty, certain newspapers chronicled the discovery of a murderer by means of a kinematograph camera that "happened to be working" in the room at the time (midnight) when he committed the crime. Munchausen? I trust I shall hear no more of the name, or I shall be tempted to forsake the straight and often uninteresting path of veracity in which it is my habit to tread; and should I once do so I will promise you that the worthy Baron would thenceforward take a very back seat indeed.

* * *

The Shepherd's Bush Cricket Club has just inaugurated a journal of its own. Only one copy of each number is turned out, the written matter being typed and the illustrations being original drawings. And the title of this newest literary production is—"Piffle."

* * *

Some curiously constituted people seem to take a special delight in trying to detect a gifted writer in a misquotation. The other day I quoted Marcus Antonius as remarking "Oh, what a sight was there, my countrymen." Immediately a triumphant critic pounces on me with the sarcastic advice to buy a copy of Shakespeare, turn to "Julius Cæsar," Act 3, Scene 2, and I shall then see that the word "sight" should be "fall." But let me inform the triumphant but too hasty critic, first, that I already possess a well-thumbed copy of Shakespeare's works and plays; and, secondly, that I did not say that I was saying what Shakespeare says Marcus said, but what *I* say he said.

* * *

Surely my opportunities of knowing what Marcus Antonius said are as good as Shakespeare's. As a matter of fact, Marcus was a personal friend of mine, and one evening during the ides of March we were smoking a mild post-prandial cigar adown the Appian Way, in company with Octavius, when Mark happened to catch sight of Artemidorus and remarked to me——[Oh, come, come! Ed.]

* * *

Well, sir, I will not pursue the subject, but you must allow me to dismiss my gentle critic with a word:

Get you gone, you dwarf,
You minimus of hindering knot-grass made,
You bead, you acorn.

That *is* Shakespeare.

* * *

Messrs. J. Lancaster and Son state that they have sold up to date about 120,000 cameras and 500,000 lenses, and they seem proud of the fact. But when we consider for a moment the execution that must have been done with the weapons thus supplied it almost moves one to tears. Supposing that on an average a thousand exposures have been made with each lens we are faced with the enormous total of 500 millions of negatives made through Lancaster lenses alone. "Old J., of Brum, time-honoured Lancaster," has much to answer for.

* * *

Whence does a pawnbroker obtain his knowledge of the qualities and value of anything and everything that comes under the head of what Mr. Wemmick described as "portable property"? How does he know that the cheap German violin he puts in the window has "a rich mellow tone," or that the tarnished old-fangled lens minus stops and flange gives "superb definition"? THE WALRUS.

SUBSCRIPTIONS.

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PHOTOGRAPHY

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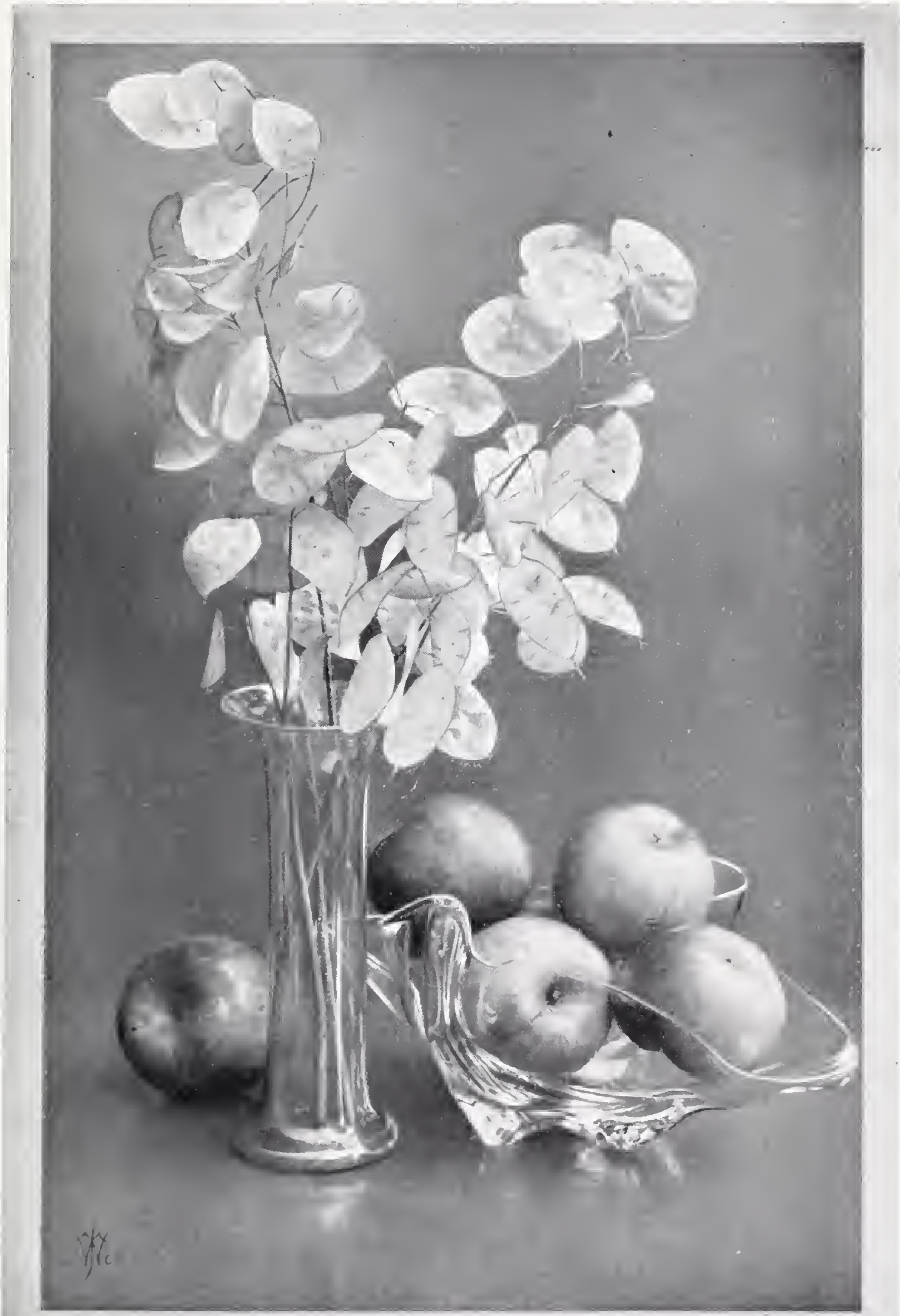
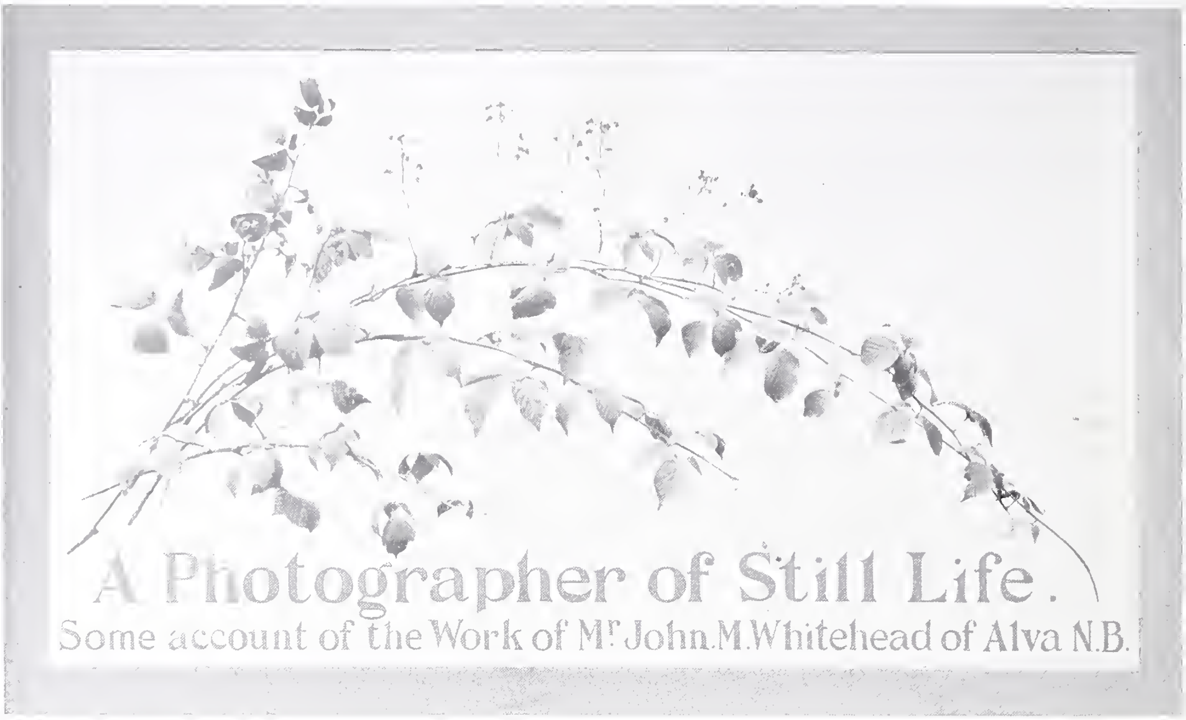


STILL LIFE GROUP (See Page 94). BY JOHN M. WHITEHEAD.



A Photographer of Still Life.

Some account of the Work of Mr. John. M. Whitehead of Alva N.B.

EXCELLENCE in any pursuit is not to be obtained without perseverance, skill, and, above all, concentration. The former attributes are well enough, and help those who possess them to reach a certain degree of proficiency; but when they are applied, not to the mastery of one subject, but to the accomplishment now of this thing and now of that, their limits become apparent, even to the superficial. "Jack of all trades" is forever "master of none," and admirable Crichtons are not seen this side the footlights. All of which may be put another way, by denunciation of the "all round" man, who may possess ability of fair average in each department but excel in none.

The worker whose photography we discuss in this week's issue is one to whom such epithets cannot be applied. He may attain a certain degree of skill in portraiture, in landscape, in photomicrography, and also in the making of lantern slides. This we know not. We know him rather by the superlative excellence of a few of his works, and these all in one given direction—that commonly classified by the painters as still life. "Representations of natural objects," as such, are eschewed by the Royal Academy, since in their bald and impersonal reproduction they call for no true artistic perception whatever, however much technical ability they may demand. Were Mr. Whitehead a mere representer of natural objects, he would be as much out of place in this connection as would paintings of such objects be at Burlington House. But he is more than this, and it is in virtue of such excess that we now deal with some of his works.

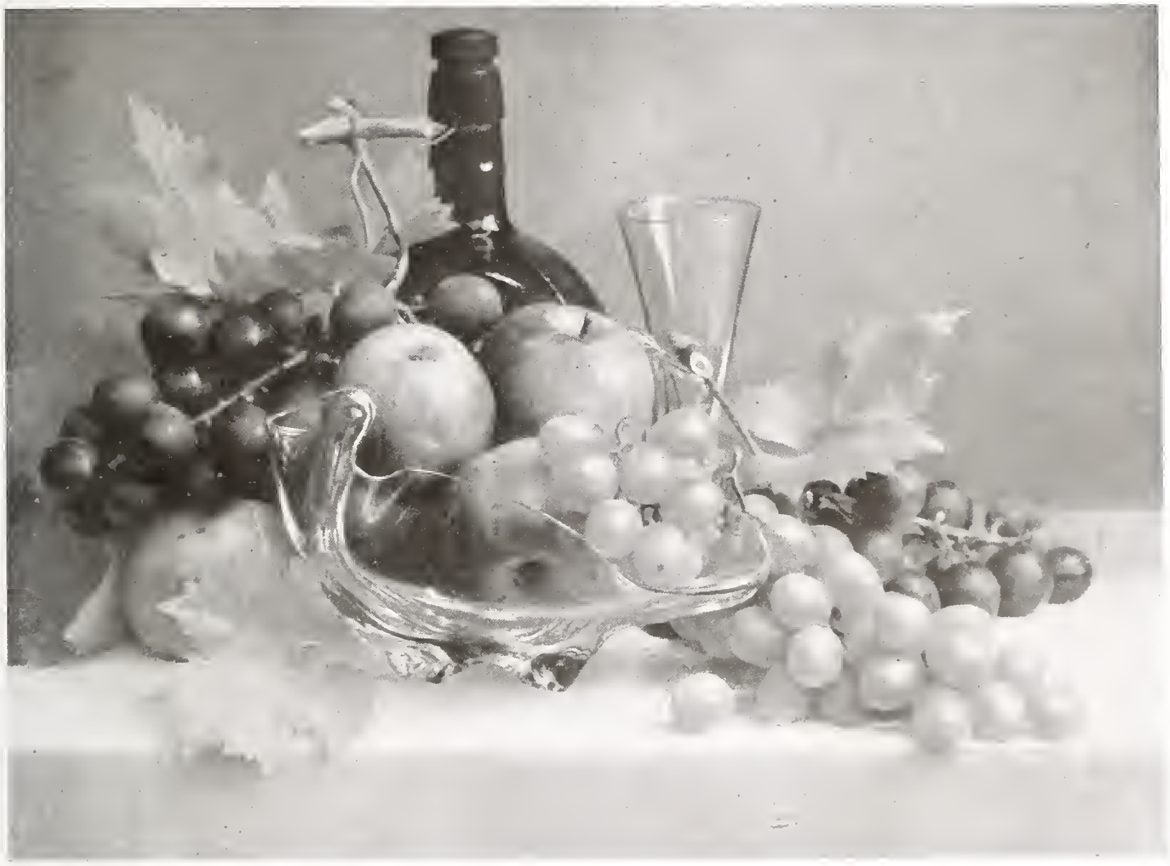
Let us turn first to the group which will be found reproduced upon page 93. There is something in this picture which marks it out from ninety-nine hundredths of works with similar subjects that we see at exhibitions; yet what that something is and wherein lies the particular charm of this simple group are not discernible at a glance. Its simplicity is one of its merits, unquestionably: a few apples in a dish, a simple vase, and a branch of honesty constitute the entire subject. How easily it would have been spoiled by the inclusion of more variety can be seen by a glance at the other pictures from the same hand on pages 95 and 107. These are not without merits of their own, as we shall show; but they would be considerably stronger were there less diversity.

Simplicity aside, the picture we are considering is noteworthy by the grand way in which the mass of delicate yet bright light tones is gathered together in the upper left-hand half of the picture, in the way in which distracting spots of light have been avoided, in the delightful rendering of the glass, and, beyond all, in the long drawn but truthful gradation which extends from the brightest point on the leaves to the deepest shadows in the fruit. The silvery surface of honesty has been reproduced with fidelity in a series of half-tones, one above the other, which get lighter and lighter step by step with a gamut of tone all to themselves, the very lowest note in which is still light, while the highest is far from a blank white. The brightest lights on the apples are not much lighter than the darkest parts of the leaves; yet the fruit is just as fully rendered, with just as many distinct steps or gradations of tone down to the deep yet velvety black of the heavy shadow in the apple next the vase. It is a triumph of technique, and yet it is something more.

There is no rose without its thorn, however, and even in this clever and successful picture there is a defect, or at least a blemish, which we cannot overlook. There is no suggestion of any difference of plane between the surface upon which the fruit-dish and vase are standing and that which lies behind them. We guess them to be set off by some form of background; but for all the photograph tells us, it might be nothing of the sort, and the tone behind the topmost leaf, as well as that behind the fruit below, may represent merely an infinite extension of the mahogany in which the glassware is reflected. This defect is not present in the similar groups on this page and on 108, and by comparing them with the first print, its importance can well be grasped. At least Mr. Whitehead sins in good company, for, if we mistake not, the decorative scheme o fthe Dudley Gallery at the exhibition of the Photographic Salon a few years ago had just such a shortcoming. There was no differentiation made between floor and walls, and the result was so unsatisfactory that it was changed altogether the next year.

If we turn to some of the other pictures of a somewhat similar character, we find in each much to admire, and in each a little to condemn. The group of "Vegetables" on page 108 is singularly happy in the adjuncts, the stoneware jug, the knife, and earthenware pot, harmonising so well with the character of the still life, essentially culinary, and rendered with all the technical skill of which we have already spoken. The observant reader will note the beautiful richness of the glaze of the deep-toned pot, happily placed in close juxtaposition to the highest light, the cauliflower that the vessel may soon contain. As we have already said, the note of simplicity in this composition is not so marked, and we find the lettering on the background a little too insistent. Nevertheless, Mr. Whitehead has made a most successful picture from most unlikely material.

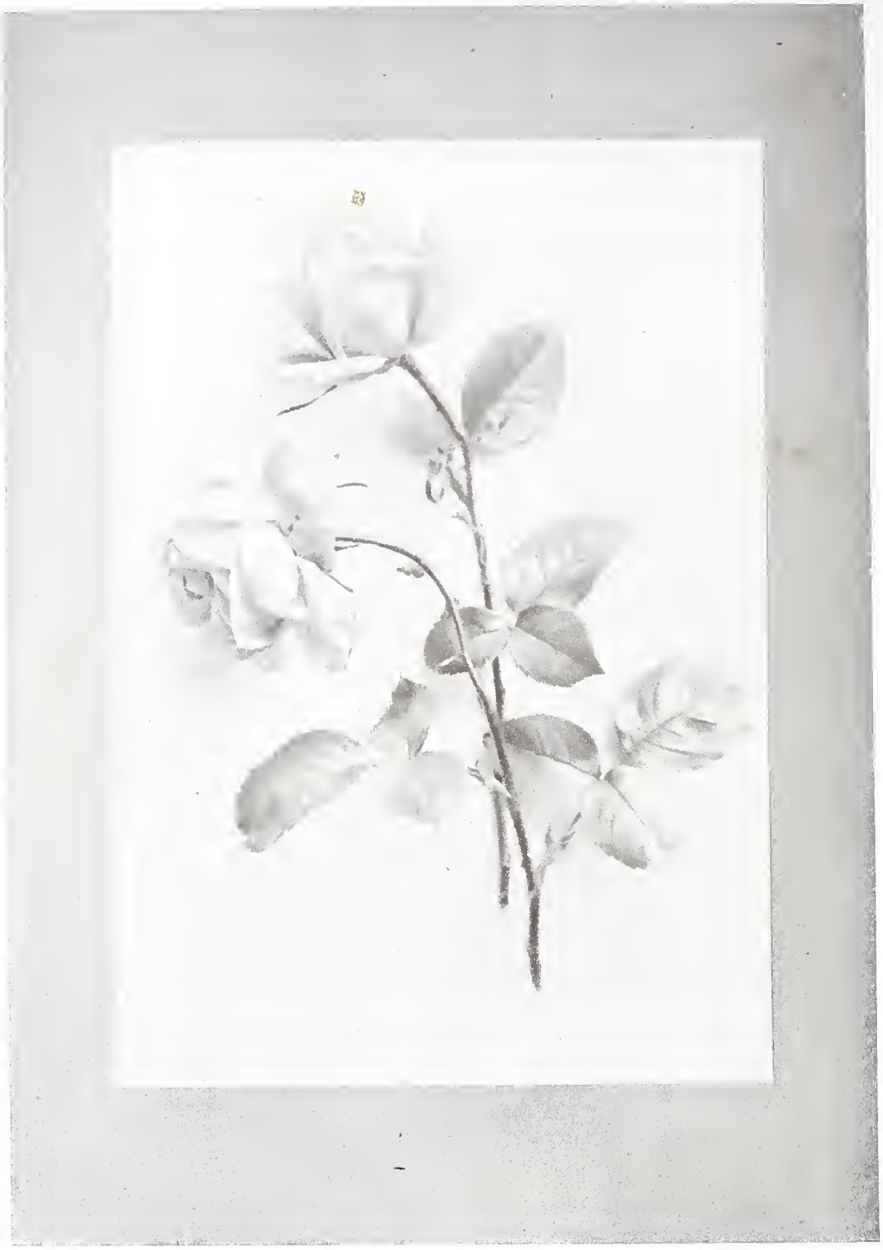
The other two fruit groups demand little in the shape of detailed notice from us. In the print on page 107 the fruit seems to be too dark. In reality the group of fruit with its brilliant coloured skin, shining as if varnished, would constitute the highest lights of the picture; yet some of its deeper tones are provided by them in the photograph. We cannot help thinking that in this case full advantage has not been taken of the power of orthochromatic photography; while in the other, the extreme lightness and indecision about the vine leaves seem to point to over-correction. Certainly, the light leaves of the grape would hardly be quite so light as Mr. Whitehead has them were true colour rendering to be aimed at; while with ordinary plates and no filter at all, they would appear altogether too black. Such blemishes are slight, however, and need not interfere with our appreciation of the good qualities of both prints.



In the daffodils and ivy leaves we have the same vase as in the first picture, rendered as successfully, and quite free from that absence of differentiation between support and background to which we drew attention. The dividing line between is not as strongly marked as it is, say, in the group of vegetables; but there is an unmistakable suggestion of it, which removes any uncertainty as to what it really is behind the flowers. In many photographs of such a subject, the bright yellow petals are made far too white by the photographer, who is anxious to avoid the unnatural blackness which an ordinary plate would give. Mr. Whitehead has avoided both errors, and gives us as true a rendering of such a subject as can ever be hoped for from a monochrome process.

There are still a few of his works to notice. The flower subjects on pages 101, 104, and 109 call for little comment from us, none whatever of an unfavourable character. They have little pictorial pretensions, but are faithful exceptionally faithful — representations of Nature, and at the same time show that great care has been taken to make the representations not merely accurate scientifically, but inoffensive pictorially. These two qualities are not often found in conjunction.

In the rose trailers which form the heading to this note, and in the group of roses on this page, we have work which has higher claims upon our attention. The roses are more than mere transcripts, but have a grace and tenderness in their arrangement and treatment generally which remind us of Mrs. Cadby, and that not as a copy, but as individual independent work imbued with a similar feeling and spirit. The heading may be compared with the picture of hops by that lady which we reproduced a few weeks ago. They are distinct enough, and as we happen to know were produced quite independently; yet the spirit in both is curiously the same.



Most of the prints by Mr. Whitehead that we have seen have been in carbon, the colour of the tissue in each case having been selected so as to be most suitable for the particular subject in hand. Not, be it noted, because it closely resembles the actual tints of the subject; that would be a mistake. In monochrome methods, where at most one shade only of one colour only can be copied, a deliberate attempt to imitate the leading colour in the subject would only draw attention to the shortcomings of the process and be disastrous. What is wanted is merely a tint that is suggestive, and, in most cases, this is what Mr. Whitehead has given us in his carbon prints. A few, equally good, have been in platinum.

In the slight notice we have thus been able to give of the work of the man who is at the present moment quite the leader in that department of photography which he has made his special study, we cannot do justice to the many excellences which characterise the work. Each in its way is a model of the very highest technical skill, combined with an artistic perception that is very seldom found in conjunction with it. To speak quite impartially, there is in some of these pictures just a slight trace of hardness and want of sympathy with the subject which we should not be sorry to see disappear in Mr. Whitehead's later work, were we quite sure that it could do so without being accompanied by some of his mechanical excellences. That, however, is more than might reasonably be expected. The one is, we think, the concomitant of the other: it is the necessary accompaniment, imposed upon us by the very excellence of the photography itself. Were the photographs less emphatic, they might gain in suggestiveness, but it would be at the expense of that richness of gradation which we have nowhere seen surpassed. "MONOCHROME."

QUESTIONS AND REPLIES

Readers wishing for information upon any specific point in connection with photographic theory or practice are invited to make use of the "query form," which will be found amongst the advertisements. All enquiries must comply with the conditions stated upon the query form; those which do not do so are neither acknowledged nor answered. All enquiries are answered by post. We cannot undertake to make replies in the paper. We print below from time to time a selection from the queries we receive, and our replies.

CERIUM SULPHATE REDUCER.

Please give instructions for using cerium sulphate as a reducer? Any information on the subject will be welcome.

The action of cerium sulphate was investigated by Messrs. Lumière Frères and Seyewetz, who found that its action upon the image is comparable with that of the hypo and ferricyanide reducer, except that it is much more regular. The neutral ceric sulphate is precipitated by an excess of water, and this must be prevented by the addition of sulphuric acid. A convenient strength in which to keep the solution is ten per cent., a four per cent. solution of sulphuric acid being used in which to dissolve the cerium sulphate. It acts with great energy, but may be controlled by diluting the solution; it may be used repeatedly till exhausted, and does not spoil by keeping. It may also be used for bromide prints, as it does not stain the whites.

ACID FIXING BATHS.

I have collected one or two formulæ for acid fixing baths. One contains sodium bisulphite, and another sodium sulphite and citric acid, in addition to the hypo. Which do you recommend, and what is the special advantage of an acid fixing bath?

We do not recommend any acid fixing bath, although both of those quoted, and they are practically the same, may be harmless if discreetly used. The advantages claimed are that the bath remains clear for a considerable time, that it removes pyro stain from the negative, and that it is economical. On the other hand, the clarity of the bath may lead to it being used when it is practically exhausted, and as it fixes, even when fresh, more slowly than a plain bath, there is in both cases a tendency to imperfect fixation. It may be used without injury to the negatives for a long while, and then without apparent cause it may deteriorate, throw down sulphur, and in other ways become a source of danger. As a stain discharger its efficacy is much overrated, since the greater portion of the stain will return in the presence of an alkali, and it can scarcely be called economical, as hypo costs less than the ingredients that are added to it. If a stock solution of hypo is kept and sufficient only for the work in hand is taken and thrown away at the end of the operation, we know that we are using the fixing bath under the best conditions, and its cost is practically nil.

THE EFFECTIVE APERTURE OF A LENS.

What is meant by the effective value of a stop as compared with its f value as arrived at by dividing the diameter into the focal length of the lens, and how is the former arrived at?

By the effective aperture or value is meant, we presume, the diameter of the parallel beam of light which is condensed by the lens to form the image. In the case of a landscape lens in which the diaphragm is in front, the diameter of the stop divided into the focus gives the effective aperture. In the case of any lens in which the stop is between the lenses the beam of light is condensed by the front lens, with the result that the stop has a higher effective aperture than the diameter of the stop indicates. To determine correctly the value of the stop in a compound lens the camera would be focussed on a distant object, when parallel rays would be brought to a focus on the screen. If then a sheet of opaque paper or thin card is laid over the focussing screen with a hole not larger than one-sixteenth of an inch in diameter in the centre of it, and a lamp is placed behind, the ray of light will fill the back lens, pass through the stop, being reduced in diameter in doing so, and finally be projected as a parallel beam. By breathing on the front lens the diameter of the disc of light can be clearly seen and measured, and that diameter divided into the focus of the lens gives the true value of the stop. As the beam of light is parallel it is obvious that its diameter may be measured at any convenient distance from the lens. By holding a piece of ground-glass against the hood of the mount the disc can be clearly seen, and its diameter measured with a rule or pair of compasses without risk of injury to the lens.

CARAMEL BACKING.

What is caramel backing, how is it made, and can it be made at home in an experimental way?

Caramel is made by heating sugar till it changes into a black substance. It can be made at home, but is a troublesome operation likely to fill the place with smoke, and as it can be bought ready prepared at any of the dealers, is scarcely worth the bother of preparing. The following is the method of working. Some few ounces of lump sugar reduced to powder—castor sugar will serve admirably—are placed in an enamelled saucepan large enough to hold several times the quantity and raised to a temperature of 410° Fahr. on a gas stove. A thermometer must be used, for if the heat exceeds 410° in the early part of the process the caramel will be spoiled, and at the same time it should not fall below 405°. The sugar must be constantly stirred and will presently melt and thicken. At this stage the temperature should be cautiously raised till the melted black mass has thinned a little, when it is poured on a slab to cool. When cool it is black and brittle like coal. It dissolves easily in water to any consistency, and when spread on glass dries hard and free from tackiness, but it is usual to add spirit to make it dry more readily, and colour of some sort to give it body. A good formula is that given by Mr. Teape: Caramel, 1 ounce; office gum, 1 ounce; burnt sienna, 2 ounces; and methylated spirit, 2 ounces. It may be stored in a wide mouthed bottle, and a little smeared over the back of the plate with a damp rag will quickly dry. Most of the commercial backings are now of this nature.

THE USE OF ORTHOCHROMATIC PLATES AND LIGHT FILTERS.

I enclose prints of a river scene for criticism. I do not understand why the field on the right should be so low in tone, or why the foreground on the left should be so weak. The negative was taken at 3 p.m in bright sunlight with f/8 on an instantaneous isochromatic plate, using a light yellow screen. Exposure, one and a half seconds.

The print appears to be a fairly correct rendering of the scene, although it is a trifle light (not low in tone) in places. From the data given the exposure appears to have been about three times as much as was required, and development has been carried too far, with the result that the lighter greens have been over corrected, or at least it is impossible to print them out sufficiently without getting the shadows in the clump of trees and on the bridge too dark. As the negative is practically useless as it is, there can be no harm in trying to remedy it, even though it should be ruined in the attempt. A two per cent. solution of ammonium persulphate (say, eight grains of the salt to one ounce of water) should be made up, and one or two drops of sulphuric acid added. A five per cent. solution of sodium sulphite will also be required and a freshly made up hypo bath. The negative should be soaked for half an hour or so in cold water and then transferred to the persulphate bath, in which at first little change will be noted. Gradually the reduction in strength of the negative will be accelerated, and then the negative must be watched very closely. The moment the negative reaches the stage at which development should have been checked in the original instance it should be transferred at once to the sodium sulphite solution, and, after a minute or two, to the fixing bath, after which it must be thoroughly washed. To those who have been long accustomed to the ordinary type of photograph the rendering of colour given by orthochromatic plates and light filters comes as a change which is not always at first appreciated at its true value.

Answered by post: W. Gregg, S.W., Synthol, W. H. Cross, Stars and Stripes, Ryde, G. Henderson, T. F. U., H. J. Burnside, P. P. H., Subscriber, H. W. Pope, Ignatius O'Neil, Millicent, Major G. E. O'D. Clements, G. Randall Bennett, R. Llewellyn, E. J. Lee, Backing, Walter K. Milvain, B. C. S., Anastigmat, R. R. Gurney, T. Parker, Frilling, Castle, G. A. R., W. Wood, H. Blair, Newcastle, Peter Midhurst, Kodaker, W. F., E. H. Wollacot, K. R. D., Celluloid, H. R. Ley, C. L. J. F. Philpot, J. Messent, F. Marchant, P. L., H. Paterson, Professional, D. Harvey, A Shareholder. W. W. C., Harold Morris, B., Focus, S. T. Talbot, Sulphite, Cyko, F.B., Overexposure, S. W. Bevan, X. Y. Z., C. Marshall, Enamms, R. I. S , Mrs. Gray, Auctioneer, Constant Reader, J. M , Leslie Kent, J. Thursby, E. D. Ferguson, J. Jones.

Correspondence

For the free discussion of all matters of general interest to Photographers

The Editor is not responsible for the opinions of his correspondents.

PROTECTION FOR PHOTOGRAPHIC MANUFACTURES.

Sir,—The suggestion of your correspondent, "A Would-be Martyr," that the photographic trade should be made the subject of an experiment in protection is one that could only have resulted from a superficial examination of the question. The notion he puts forward that experiments of this nature can be made, and if found harmful in results withdrawn, is a mistaken one. Trade cannot be treated in this off-handed fashion, for while it can be easily destroyed, it is not so easily created. Any change in the conditions of trade is therefore a matter of life and death, and cannot be reduced to one of mere temporary inconvenience.

A second error made by a "Would-be Martyr" is that our own manufacturers could supply the articles which a protective tariff would cut off. For example, supposing German lenses and American cameras ceased to be imported, would the British lenses and cameras supply the demand which exists for these articles? I cannot see that they would, for although I believe that for workmanship British articles cannot be surpassed, there is such a thing as being too good. In other words, more workmanship is put into British lenses and cameras than the ordinary photographer wants, or can afford to pay for. The trade in German lenses and American cameras has been created in spite of British manufacturers, who cannot compete with their rivals. Cut off the supply, and a large part of the photographic trade would be made unprofitable.

A still stronger objection against the suggestion of your correspondent, which needs no experiments to prove its validity, is that a forty-five per cent. tariff on photographic articles would raise photographic prices, whilst general prices remained untouched. That is to say, the photographer would be paying about thirty shillings for articles which others could buy for twenty shillings. Under such circumstances the photographer must raise his selling prices, and the client who previously paid a sovereign would pay thirty shillings. Evidently then the photographer would be worse off, because, at these increased rates, the demand would fall off, which would not happen if there was a general rise in prices, instead of a rise confined to one particular profession.

Yours, etc.,
JOHN A. RANDALL.

ENGLISH COPYRIGHT PHOTOGRAPHS COPIED ON GERMAN POSTCARDS.—THE DECISION OF THE GERMAN COURTS.

Sir,—The Photographic Copyright Union had observed the immense reproduction of English copyright photographs in Germany for postcards, and they took the earliest opportunity of testing how far this could be legally prevented.

Early in 1900 a members' copyright photograph had been reproduced by the Neue Photographische Gesellschaft, Aktien Gesellschaft of Steglitz. The Union, through their solicitors, instructed a reputed German solicitor to take proceedings in the Court of the Fifth Civil Chamber of the Royal Provincial Court of Berlin. After a very long time (as is customary with most courts of law whether at home or abroad) a decision was given against the Union. The committee then determined to appeal against the judgment of that court. Unfortunately, they were unsuccessful in that appeal. Judgment was pronounced on May 12th, 1903. The committee think that an extract from the letter of Dr. Katz, the solicitor in Berlin, will give a fair outline of the case.

Extract from Dr. Katz's letter dated Berlin, July 6th, 1903:

"The judgment has fully recognised that English people are protected in Germany with regard to the copyright of photographs within the same limits as German people. The only reason for dismissing the appeal has been the special proviso of German law that the copyright of photographs be not protected if the photograph is applied on a work of manufacture. Now the court has considered that the postcards of the Neue Photographische Gesellschaft are to be appreciated as a work of manufacture, because the photograph does only occupy a little space on the postcard, so that the postcard has not lost its special character as a paper containing a letter. You see that the reason why the appeal is dismissed is essentially a matter of fact. The highest court can only reverse the judgment if the judges below have violated the law. The question as to whether or not the appreciation of a matter of fact might be considered as a violation of law depends entirely on the free arbitrum of the judges of the highest court. Questions of this kind cannot be judged by a certain law. It is merely a matter of personal contemplation to say in this special case whether the principal character of the cards are the photograph or the postcard."

The judgment alluded to has been translated, but it is so technical and voluminous that the committee do not think it would be of much interest to your readers.

It must be understood that no complaint can be made against the fairness of the German courts. One thing must be borne in mind. The English photographer, through the Berne Convention, is entitled to all the rights which a German photographer obtains in his own country. There is a peculiarity in the German law as regards photographs—viz., if a German copyright photograph is reproduced in a manufactured article the German law gives the photographer no redress, and it is on the grounds that the postcard is more a manufactured or trading article than simply a photograph that this case has been lost.

Yours, etc.,
HENRY GOWER,
Secretary for the committee of the
Photographic Copyright Union.

"A WANT."

Sir,—Referring to "A Want," page 80, I beg to enclose a sample of black paper supplied by Messrs. Waterlow and Sons, Ltd., London Wall, E.C. The sheets measure 26in. by 20in., and the price, as far as I recollect, about 3s. 6d. per quire.

Yours, etc.,
W. R. BLAND.

[Messrs. Wells and Co., of Avenue Road, Southgate, N.; Mr. G. F. Horne, of 4b, New Broad Street, London, E.C.; Messrs. G. Houghton and Son, Ltd., of 88 and 89, High Holborn, London, W.C.; and Mr. Jonathan Fallowfield, of 146, Charing Cross Road, London, W., also write to say that they supply the black paper such as Mr. Nicholls wants.—ED.]

A New Facsimile Telegraph. The Telechirograph.

THE most successful facsimile telegraphs which have been so far devised are based upon the Gray and Ritchie telautographs, in which the movement of the transmitting stylus is resolved into two components, which after having been transmitted over two independent circuits, are re-united in a single resultant at the receiving station. In machines of this type, chemically treated paper is usually employed, which, as it is acted upon by the current from the receiving stylus, is electrically decomposed to reproduce in facsimile the message, pictorial or written, sent from the transmitting station.

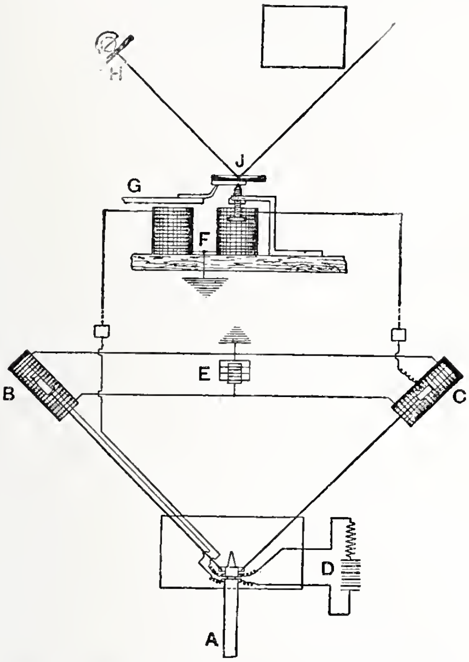


Fig. 1. Diagram showing the principal circuits of the Telechirograph.

An ingenious modification of these instruments, says the *Scientific American*, is embodied in the "telechirograph" of Gruhn. This differs radically from the previous facsimile telegraphs in its method of receiving the message transmitted. Instead of employing chemically treated paper upon which an unwieldy and cumbersome stylus is caused to act, a beam of light is utilised which writes the message transmitted upon a strip of sensitised photographic paper.

The striking photographic principle which characterises the Pollak-Virag telegraph (described in *Photography*, November 1st, 1900, Vol. XII., page 728) is employed for an analogous purpose and with the same wonderful results. Each instrument acts both as a transmitter and as a receiver. It is necessary, therefore, to describe only the operation of sending and recording that which is written. The message is inscribed on a piece of ordinary paper by lead held in the peculiarly constructed pencil A (fig. 1). By flexible connections the pencil A is caused as it moves to shift sliding contacts in their respective rheostats B and C. As the contacts reciprocate, the electrical resistance is varied, the amount of resistance cut out depending, of course, on the scope of the pencil's movements. Each of the two transmitting lines forms a shunt on the local circuit of the battery, the currents changing when the contacts move along the rheostats to influence two electro-magnets in the receiving station, by which electro-magnets a small mirror J is caused to move, somewhat in the manner of the mirror of a Thomson reflecting galvanometer. A beam of light from a small incandescent lamp H is allowed to fall upon this mirror, after having passed through a system of condensing lenses mounted in a tube by which the rays are concentrated into a point. As the transmitting pencil writes, the mirror oscillates correspondingly, so that its beam of light, acting as a recording pencil, writes photographically on a strip of bromide paper, which is unwound from a roll, the message being developed in a box containing the operative mechanism.

A description of a few of the electrical details should not be without interest.

The coils of the rheostat are formed of insulated wire wound in the narrowest possible windings in contact with each other upon a non-conducting core, while the insulation in the path of the sliding contacts is removed from the surface of the spools, but in such a way that it remains between the single windings of the latter. Each winding, therefore, forms an element of resistance, and by the displacement of the contacts toward either end such elements are in number either reduced or increased. The mirror J is attached to a small triangular iron plate, one corner of which rests upon a setscrew, so that the mirror can oscillate in any direction. Beneath the other corners extend two armatures which produce the oscillations corresponding to the component movements of the transmitter, from the co-operation of which the previous motion of the transmitting stylus is obtained. The positive upward oscillations of the mirror are insured through the positive movement of the armatures of the electro-magnet F. Permanent or steel magnets are used for the armatures of the electro-magnets.

When not in use the pencil lies in a rest which opens a switch breaking both circuits—very much as the receiver hangs in a rest on an ordinary telephone and by its weight opens the switch and breaks the current. When taken out of the rest the switch is closed, and the current thus set in motion lights the small incandescent lamp in the receiving instrument. The apparatus is then ready for use.

When the message is completed the metallic pencil is put back in its rest at the transmitting instrument and the circuit broken. In the receiving instrument the light goes out and an electric motor, operated by an independent battery in the receiving instrument, is set in motion. This motor operates a train of wheels or rollers which draw the portion of the paper written upon by the light ray through a developing bath and out again through a pair of rubber drying rolls, so that the completed message is delivered about thirty-five seconds after the sender replaces the metallic pencil in its rest. The same strength of current and quantity used in the telephone serves for the telechirograph.

Hints on Photographing for Reproduction.

The current issue of our contemporary *The Camera* quotes from "Commercial Originality" a list of practical suggestions about photographing objects, mostly machinery, for reproduction purposes, some of which may be of service to our readers. The hints take the form of cautions, and are as follow:

Do not photograph a machine of iron or steel material without first painting it. A bluish-grey colour is best. This removes all oil spots, dirt, and scratches, and with suitable lighting produces good tones in the photograph.

Do not photograph the machine without first putting the polished steel or nickel-plated surfaces. This retains the bright colour, but eliminates reflections from other objects or interfering lights from the window.

Do not use a wide-angle lens; it produces a distorted picture.

Do not photograph a machine in direct sunlight, otherwise nothing will be got but intense shadows and intense high lights.

Do not under-expose the plate, for snapshots do not reproduce detail. Rather use a subdued light and a long exposure.

Do not light the machine from one side or above. Have the light full on the centre or slightly from right to left.

Do not tone the prints red. Red shadows in a photograph produce black in the half-tone. If the photograph is toned brown, the brown tone remains of the same colour value in the half tone, hence it produces a better reproduction of outlines and detail. Use smooth or glossy paper.

Do not have a canvas background too close to the subject. This causes reflections, and produces an imperfect outline.

Do not let any sunlight strike the machine. Tack cheese-cloth over the window to prevent it.

THE RELATIVE EXPOSURE IN STUDIOS AND ROOMS.

By JOHN A. RANDALL. SPECIAL TO "PHOTOGRAPHY."

IN *Photography* of January 24th, page 74, I described a graphic method of ascertaining the intensity of the light at different distances from a window, giving also some actinometric tests in support of the conclusions arrived at. Based on this graphic method I have since worked out the exposures required at from one to twelve feet from windows varying in area from sixteen to 144 square feet.

These results are collected in the following table which shows at a glance the relative exposures:

TABLE I.

Distance from window in feet.	Area of window in square feet.								
	16	25	36	49	64	81	100	121	144
1	1·2	1·2	1·1	1·1	1·1	1·1	1·1	1·	1
2	1·5	1·4	1·3	1·2	1·2	1·2	1·2	1·1	1·1
3	1·7	1·6	1·5	1·4	1·3	1·3	1·3	1·2	1·1
4	2·	1·8	1·6	1·5	1·5	1·4	1·4	1·3	1·2
5	2·6	2	1·8	1·7	1·6	1·5	1·5	1·4	1·3
6	3·3	2·5	2·	1·8	1·7	1·6	1·6	1·5	1·4
7	4·	3·	2·4	2·	1·8	1·7	1·7	1·6	1·5
8	5·	3·5	2·8	2·4	2	1·8	1·8	1·7	1·6
9	6·	4·	3·2	2·8	2·3	2	1·9	1·8	1·7
10	6·8	5·	3·6	3·4	2·6	2·2	2·0	1·9	1·8
11	8·5	6·	4·	3·6	2·9	2·4	2·2	2·0	1·9
12	10·	6·8	5·	4·	3·2	2·6	2·4	2·2	2·0

The figures on the top line indicate the area of the windows in square feet; the first column on the left the distance from the window. Thus the relative exposures from one to twelve feet from a window sixteen square feet will be as 1.2 to 10; from a window 144 square feet area, as one to two.

These figures refer to the light which strikes a surface parallel to the window, and not to that falling along a horizontal plane. The illumination on a sitter placed in the usual position would be of the nature here assumed.

I find that these results may be checked by applying the cosine law. Trotter in his work on "The Distribution and Measurement of Illumination" takes $\cos^2 a$ as applying to cases of illumination such as we are considering, and the cosine values will be found to be correct. A reference to fig. 1 will show how this law may be applied, the method being a modification of that given in my previous paper. Here AB represents a window twelve feet square, and AC one four feet square. The maximum light at the front of the window is taken as equivalent to unity, and as the object is moved along the base line AD, the intensity of the light at any point is proportionate to the $\cos^2 a$.

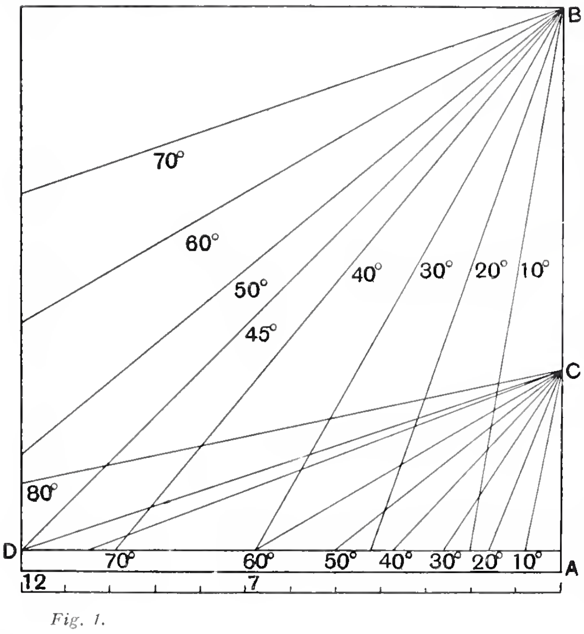


Fig. 1.

The numerical value of $\cos^2 a$ for various angles is as under:

5° = ·98
10° = ·96
15° = ·92
20° = ·86

25° = ·81
30° = ·73
35° = ·65
40° = ·57

45° = ·49
50° = ·40
55° = ·32
60° = ·25

65° = ·17
70° = ·11
75° = ·06
80° = ·02

Referring to fig. 1 it is seen that at twelve feet distance along the base the angle through the four feet window is about 70°; through the twelve feet window 45° exactly. From the table of the values of $\cos^2 a$ we have 70° equals .11, and 45° equals .49. The relative intensity of illumination is therefore as .11 to .49; and the relative exposure as 1:4.4.

Practically, the exposure required might be taken as 1:5 as the angle is slightly greater than 70°. The table of relative exposures gives as 10:2 so that the values of $\cos^2 a$ are in this case identical. Similarly, the remaining values will be given by taking the $\cos^2 a$ of the angle made with the base line; for example, at seven feet distant where the angles of 30° and 60° meet in a point; by Table I. we have 4:1.5; by $\cos^2 a$ .73:.25, a relative exposure of about 1:3 in each case.

So far I have only considered a subject opposite the window, this being the position mostly taken up in practical work. It may happen, however, that some estimate of the light is required when an object is situated on one side of the window. This can also be arrived at by a graphic method and simple calculation.

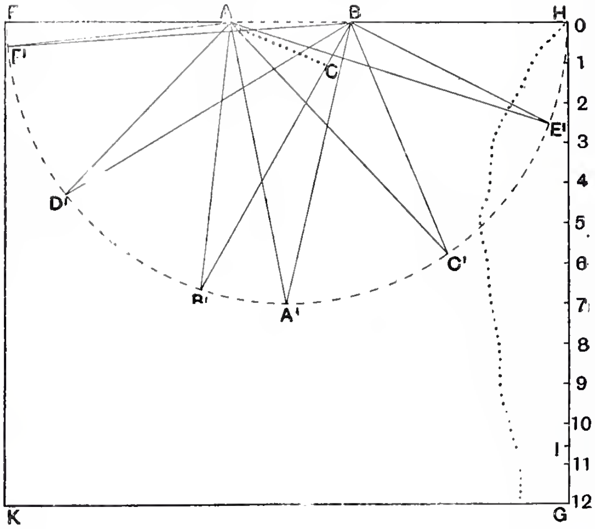


Fig. 2.

In fig. 2 let F, H, G, K represent the four walls of a room, and A, B a window three feet wide and four feet in height, and *a*, *b*, *c*, *d*, *e*, *f* six points, each seven feet distant from the centre of the window; then the relative intensity of the light at the different points will be proportional to the angular extension which illuminates them.

At *a*, therefore, this point being opposite the centre of the window, the value will be according to the formula.

$$\left(\frac{y}{x}\right)^2$$

, where *y* equals the aperture, and *x* the distance of *a* from the centre of the window.

Moving round the semicircle, it is obvious, is equivalent to narrowing the window, its height remaining constant. The rate of this decrease can be found by measuring along the dotted line AC at the base of the angle, which gives a value for calculation.

As an object is moved to the side of the window the direct light which illuminates it constantly diminishes, until at a point H, parallel with the window, no direct light is received. Such a point would be quite dark were it not for reflected light, and this reflected light is an important help in the illumination of studios and rooms. The reflected light in a room, however, can be taken as a constant, since it is equally distributed, and affects expo-

By John M. Whitehead (see page 91).

sure to the same degree in any part of the room or studio.

To find the relative illumination at the six points the dimensions should be drawn to scale as shown in fig. 2. In this example the window is three feet wide by four feet in height, *a* being seven feet distant, and ten feet from *f*. At *a* the numerical value is given by the fraction $\frac{12}{49}$; at *b* the width of the effective aperture, measured along the dotted line AC, is reduced to 2.5 feet, and the fraction is $\frac{10}{49}$, since *b* is seven feet from the centre of the window. Similarly, with the remaining points, the intensity of the illumination being expressed by a fraction having the effective area of the window as numerator, and the distance from the centre as denominator.

Actinometric tests at the various points indicated in fig. 2 compared as follows with the calculated figures:

	Calculated Exposure.	By Experiment.
a	1·	1·
b	1·2	1·1
c	1·5	1·8
d	2·	3·
e	3·	9·
f	12·	18·
H	Infinite	18·

This shows that the points *a*, *b*, *c*, and *d* the actual intensity of the light approximates to the calculated results. At *e*, *f*, and H the error is considerable. The light at H is $\frac{1}{18}$ the intensity of that at *a*; but as no direct light reaches H, this represents the reflected light in the room. The same is true of *f*, for the direct light that should reach it is cut off by the brickwork projecting on the outside of the window. With the point *e* the brickwork also reduces the effective aperture fifty per cent., which would account for the falling off of the light. Added to this, the loss of light by reflection from the surface of the glass must become much greater as we approach H. These causes would account for the longer exposure needed at the more oblique positions.

A second series of experiments made when the light was quite uniform gave me a much closer approximation. Here I calculated the intensity of the light at every foot up to twelve along the wall HG, and again at the point *a* as compared with I on the same wall. I then tested the light at these points, a comparison with calculation resulting as under:

	Calculated intensity.	By experiment.		Calculated intensity.	By experiment.
1	0·8	0·1	8	1·4	1·3
2	1·2	0·1	9	1·4	1·3
3	1·6	1·0	10	1·2	1·3
4	1·6	1·6	11	1·0	1·0
5	1·8	1·8	12	1·0	1·0
6	1·6	1·6	a	1·0	1·0
7	1·6	1·6	I	4·5	4·1

The same falling off of the light as previously towards H is apparent, otherwise experiment supports the calculated results. The maximum light strikes the wall at five feet from H, and diminishes on either side. The illumination along HG can thus be expressed as a curve, and plotted as shown in fig. 2.

By this method the illumination in any room or studio could be graphically shown, and would form a guide, not only to the best positions for placing a sitter, but also to the relative exposure at any point. Thus if at *a*, seven feet from the window, the exposure is one second, then at I, thirteen feet distant obliquely, the exposure would be about four seconds.

Report on Some New Matt Albumen and Collodio-chloride Papers.

The whirligig of time throws out old fashions in photographic printing and brings them in again as in everything else. Time was when to most people, including the majority of photographers, a photograph was synonymous with a print on albumenised paper, and the platinotype, bromide, and carbon processes were as caviare to the multitude. Then the gelatino-chloride papers, after a long period of probation, leaped into favour, and for the last ten years or so albumenised paper has been little heard of.

It is possible, however, that this state of affairs may be reversed, for we have received from Messrs. L. Trapp and Co., of 29, Budge Row, Cannon Street, samples of albumen paper which possess many of the qualities that made gelatino-chloride paper popular combined with those peculiar to the older favourite. The new paper, however, is produced with a matt surface of a very delicate character.

Accompanying this paper were samples of collodio-chloride matt surface papers of different degrees of substance. On comparison of the prints made upon these papers it is noticeable that while the surface of the C.C. paper has a slight gloss, those on the albumen paper are absolutely dead matt.

The tones obtainable, as with most similar papers, range from red to a neutral black, and when a combination of gold and platinum toning is adopted the results are comparable with bromide or platinotype. The albumen paper retains so much of its older character that negatives showing fairly strong contrasts give the best results upon it. The general treatment of the prints does not differ from that we have been long accustomed to. Printing should be carried to a deeper stage than is required in the finished picture, all free silver must be washed out before toning, and the prints should be well rinsed between toning and fixing. A variety of formulæ are given for platinum and gold toning baths simple and compound, and all appear to work equally well.

STUDIO NOTES AND JOTTINGS by "Professional."

TESTING PLATES.

THE readiest method of testing a new sample of plates is to make a trial exposure and compare the result with negatives of recognised good quality from other plates. To the photographer who knows thoroughly the standard of quality he wishes to reach, the exposure of a plate is sufficient for his guidance, and he is able to form a rough estimate of the quality of the plates tested by examination of the negative. As such a guide the trial exposure answers well, though it is no real test of what a plate is worth. For a complete test the studio portrait is too limited in its range of gradations, and it gives no indication of how the plate behaves when dealing with a wide range of gradations, or a number of closely related shades. In trying a new sample of plates, we require to learn two things: first, the range of light intensities they will reproduce, and, secondly, the power they possess of discriminating between slight differences of exposures. To test these points the light intensities must be under our control, which implies the use of artificial sources of illumination. In plate testing, a candle will serve as a source of light, the intensities being impressed on the plate by exposing different portions for a given time. For slow plates the limit of sensitiveness is about twenty seconds exposure at a foot distant from a candle, whilst the shortest exposure possible is about 1-225 of a second. If now we take the plate to be tested and expose six portions as follows: One second at fifteen feet distant, two seconds at fifteen feet distant, and then five, ten, twenty, and forty seconds at one foot from the candle, we shall have a most searching test of what the plate is worth. The better the plate the greater will be the difference between the various densities after development. With a poor plate the distinction between the five and ten seconds' exposures and the one and forty seconds will be less marked. Plates tested in this way will reveal their peculiarities much more readily than by making an ordinary exposure in the camera.

DEPRESSION IN PHOTOGRAPHY.

I DO not share the views favoured in some quarters that the photographic profession is going to the dogs, nor do I take a pessimistic view of the future prospects of employers and employed. As long as I can remember I have heard these dismal forebodings for the profession, and yet have lived to see them falsified, and the rise and growth of new and flourishing businesses. As a profession, I believe that both for employer and employed photography is as good as ever it was, in spite of the constant grumbling that employers cannot make a profit and assistants cannot earn a living wage. If portraiture is "played out," how are we to account for the success of the many professionals who have come to the front within the last ten years without any reduction in the ranks of the older ones. The old firms, almost without exception, still go on, whilst every year fresh men of the first rank are added to what is supposed to be an overcrowded market. Weighing the facts, I am inclined to think that the profession is not overcrowded with the right sort of man, who, at the present time, has every prospect of success. Men of this stamp obtain more sitters than they can conveniently photograph, and I know of one professional who is often compelled to decline sittings. When this can happen it does not support the overcrowded theory, which has been so constantly put forward to disguise the fact that some photographers cannot, or will not, bestir themselves to keep up with the times.

PRINTING FRAMES.

I AM glad to learn that inventors and manufacturers are giving their attention to the printing frame, that primitive contrivance which for so long has gone on its blurring print-shifting way. It is certainly time some reform was made in the printing frame, for as it is this piece of apparatus is both wasteful and faulty. Even when made in polished mahogany by a cabinet maker it is not perfect, but when made of rough teak, with iron springs and a flimsy back, it is positively deadly, constituting a dangerous "print-waster." The printing frame to me stands as representative of the professional's conservative instinct, for, I am sure, it would not have been tolerated so long by a progressive body. The waste of time involved in using the printing frame is out of all proportion to the end achieved, since the filling and changing

By John M. Whitehead (see page 94.)

could be done by mechanical methods. Under present conditions every printer requires one or more changers, for if single handed the changing is so slow and laborious that it would occupy all his time, to the detriment of the actual printing. The waste of time and material which are inevitable with the printing frame can only be overcome by adapting the roll-film system to the printing. I do not foresee any mechanical difficulties in the way of constructing a printing frame which would hold a roll of paper, and could be changed on the printing bench by a simple movement. Such a contrivance would reduce the changing of prints to a single operation occupying a few moments, instead of the many minutes which now elapse whilst the frame is being turned down, gathered into a pile, carried indoors, changed, again piled, brought out, and again exposed. Our inventors might consider the idea here put forward, which if realised would prove, I trust, advantageous to all concerned.

ON APPRENTICES AND BRAINS.

I WAS reading the other day the results of some measurements made by a foreign man of science to determine the size and weight of the brains of men following various occupations. He came to the conclusion that porters, labourers, and other unskilled workers had the smallest brains, and then came mechanics and skilled workers; higher still in the order named were tradesmen, professional musicians, and photographers; finally, next to photographers, were the professional classes—doctors, lawyers, editors, and cabinet ministers. This is rather flattering to the profession, as it places the photographer at the head of all occupations, and in line with the learned professions. I am not surprised at the position taken by photographers in the scale of mental capacity, for I have long observed that, though our occupation claims not a few rogues within its ranks, it is singularly free from the complementary fool.

The fact is that it requires more than the average amount of wits to make a living by photography whatever position one may occupy. The successful photographer is always an intellectually superior man, having more in common with professional workers than with the average tradesman. The same demand for mental capacity is called for in the assistant and the apprentice, and unless a youth gives evidence of possessing a bright intelligence, it is useless for him to enter the trade. Given such a youth, I am confident that his prospects in photography are excellent, for I can give from my own experience examples of such youths who have risen from apprentices and assistants to positions of influence both in commercial and scientific photography. There is always a demand for intelligent and well-educated youths in photographic studios, and provided they work hard to improve themselves their future is secure.

SCIENTIFIC RESEARCH AND TRADE.

IT appears that at length something is to be done in this country to provide facilities for scientific research, such as have long been available in Germany. Sir William Abney has made an appeal to the photographic world for funds to provide a scientific laboratory, and Lord Rosebery has published to the world at large a scheme for providing a national research university. The avowed object of these endeavours is the improvement of trade, for the case of Germany has shown that industries follow the course of scientific discovery. We are all aware of the extent to which we depend for chemicals upon German manufacturers, and if they had not turned their attention to photographic chemicals we might still be paying a penny an ounce for hypo and half-a-crown for pyrogallic acid. Here then we have an instance of the benefits of scientific research which enables things to be produced through improved processes at a much cheaper rate. Beyond the cheapening of articles that he uses, I do not see that much benefit can accrue to the portrait photographer from scientific research. The demand for portraits increases with the general prosperity of the country, and is also regulated by the artistic education of the public. When the interest in pictorial art is strong, then the demand for photographs will increase; when other interests turn the attention from art matters, then the photographer will be equally neglected with the artist. Portrait photography is not an industry, and scientific research will have no effect on the demand for photographs, since this must follow the general art movement amongst the public. But none the less the research movement is a welcome one.

The Videx Reflector Camera.

We have frequently had occasion to admire the ingenuity of design and perfection of workmanship lavished by Messrs. Adams and Co., of 26, Charing Cross Road, upon the apparatus they manufacture, and have found an interest in noting how in their cameras one idea has led on to another. But for the experience we have had of Messrs. Adams's fertility of resource, we should say that their latest production—the Videx camera—was so perfect an instrument as to be incapable of improvement. It is of the reflex type, and is fitted with a focal plane shutter—a combination that cannot be excelled for rapid and accurate work.

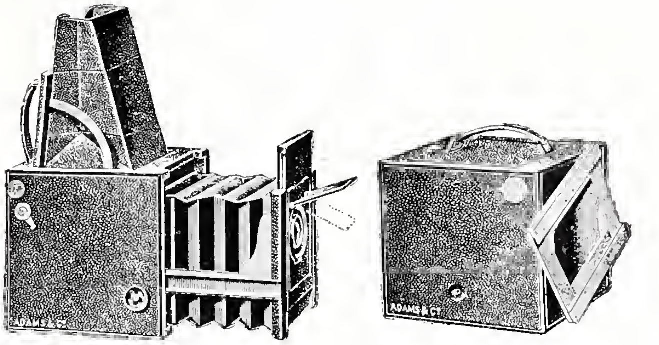


Fig. 1.

Beyond this the camera is so constructed as to carry a lens of focus short enough for wide-angle work, and at the same time has sufficient extension to accommodate one-half of a medium angle single lens or to take a telephotographic lens. To accomplish all this very special arrangements have had to be made. To construct a reflex camera which shall take one lens only and give perfect results has been found to be by no means the simplest problem that the camera maker has to solve; and when, in addition, a battery of lenses has to be accommodated, the task is infinitely greater.

The absence of a reversing back has proved, in the past, a disadvantage with some makes of reflex cameras, as the mirror could only be used with one shape of picture, the composition of the other picture having to be found in an ordinary type of viewfinder. Here again we find that the alterations leading to efficiency are of a radical nature. The dark slide is simply dropped into a slot, pressed home, and fastened securely by a simple and effective catch, as shown in fig. 2.

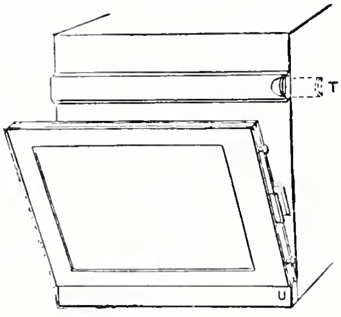


Fig. 2.

When it is desired to change the form of the picture from the vertical to the horizontal, it may be done even after the shutter of the dark slide has been withdrawn, the focal-plane shutter set, and the exposure is on the point of being made. The reversing back revolves in a circular groove, which effectually cuts off all light from the interior of the camera, and a spring catch at the bottom of the camera makes all secure. Fig. 3 shows the back being reversed. When the reversal has to be made hurriedly, as is usually the case, it is a great convenience to have no loose pieces to handle.

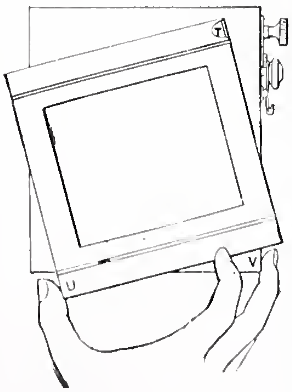


Fig. 3.

Economy of space and convenience have been considered in every detail. There is a pocket in the focussing hood for the focussing screen which is only required when the camera is supported on the tripod; and

THE VIDEX CAMERA.

a place for the dark slide shutter when it is withdrawn; while a drawer at the base accommodates a record card, pencil, colour filter for use with orthochromatic plates, the back combination of the lens if the front one only is in use, and any other minor accessories.

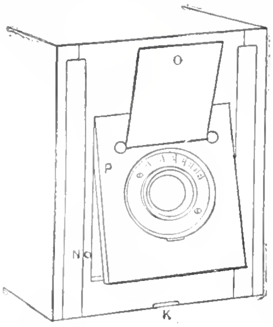


Fig. 4.

The front of the camera is shown in fig. 4, where the lens cover is seen uplifted. It may be set at any angle, however, as in fig. 1, to serve as a lens shade. The lens panel is also shown partly opened. It is hinged at the top, and as the lens is fitted from the inside, all that is necessary when one-half of the lens is to be used alone is to lift the panel and unscrew the back combination. A very considerable extension is given, and is regulated by the pinion seen in fig. 1. The focussing hood projects upward to a sufficient height to suit normal eyesight, and enables the image to be seen and focussed on the screen without straining the eyes, and whilst the image is being examined the lens may be raised by a touch of the hand.

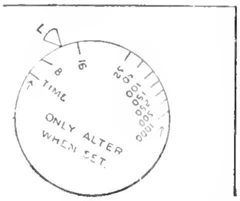


Fig. 5

The setting of the focal plane shutter either for time or instantaneous work is a matter of perfect ease once the instructions have been read through and speeds from one-eighth to one-thousandth of a second are arranged for. Fig. 5 shows the speed dial.

Upon first examining the camera we were struck by the ingenuity of the arrangements, but it was not until we had handled it in actual use and made exposures with it that we realised how completely every want had been anticipated and met. Our experience with it has confirmed our first impression that it is the most perfect instrument of its kind that we have had through our hands, one which it is a pleasure to possess and a luxury to use. Nor, all things considered, can it be said to be an excessively costly camera; in fact, for its many contrivances and all round capability it is as cheap as any we have seen. It is sold at £23 10s. for the quarter-plate size and £25 10s. for the five by four size, both fitted with Goerz lenses.

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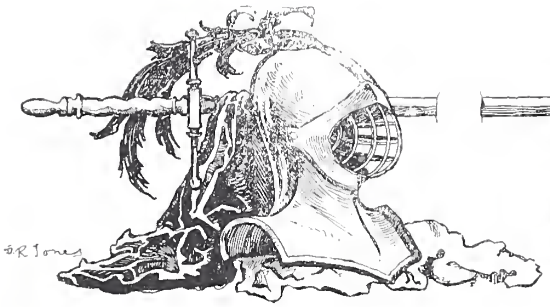

The Week's Meetings

THURSDAY, JULY 30TH.

Watford. Informal Discussion and Consideration of Members' Work.

SATURDAY, AUGUST 1ST.

EXCURSIONS.

Hackney. Selsdon Road.
Hull. Kirkham Abbey.
Halifax. Hardcastle Craggs.
Catford and Forest Hill. Ostend and Bruges

MONDAY, AUGUST 3RD

EXCURSIONS.

North Middlesex. Gomshall.
Croydon Nat. Ightham, Kent.
Ilford. Burnham Beeches
Walthamstow South Benfleet.
Everton. Excursion.

TUESDAY, AUGUST 4TH.

Southampton C.C. Metallotype Paper and Opals. A. Copeland.
Nelson. Photographic Notes and Notions. A. Plunkett.

WEDNESDAY, AUGUST 5TH.

North Middlesex. Eighth Lantern Slide Competition.

THURSDAY, AUGUST 6TH

Hull. General Meeting.

SATURDAY, AUGUST 8TH.

EXCURSIONS.

Boro. Poly. Crohamhurst.
Glasgow P.A. Cadzow Forest.
Ilford. London.
Bristol. Brockley Combe.
Woolwich. Bexley and Crayford.
Glasgow and West of Scotland. Luss and the Islands, Loch Lomond.
Bowes Park. St. Albans.

Societies will have their meetings announced here if the syllabus is sent to us at the beginning of the Session, or from time to time.

PHOTOGRAPHY, No. 768, Vol. XVI.

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NOTICE TO CORRESPONDENTS.

All letters, advertisements, etc., must reach the office on Friday morning to ensure being dealt with in the issue for the next week. In cases of great urgency, letters delivered up to the first post on Tuesday morning may be in time to receive attention, but this cannot be guaranteed.

Communications for the Editor should be addressed, The Editor of *Photography*, 3, St. Bride Street, London, E.C.

In all publishing matters, letters, orders, etc., should be addressed, Iliffe & Sons Limited, 3, St. Bride Street, London, E.C.

Advertisement copy and orders, and these only, should be sent to the printing works. They should be addressed Iliffe & Sons Limited, Coventry.

LEADER

Light Apparatus for the Field.

Much discussion has been taking place lately on this topic, brought out, we doubt not, by the sudden arrival of hot weather. The old subject of direct *versus* enlargement for big landscapes has revived, and within the last two days we were at a meeting where the debate waxed as hot as the weather. The last word has not been said yet, we feel sure, on the question of the construction of very light large cameras; if it had, we should be inclined to think that their day had gone by for picture-making work in the field.

There is in favour of small cameras, portability, economy, and the absence of physical and mental lassitude when a long tramp has to be undertaken between the railway station and the locality where the work has to be done. On the other hand, there is the undoubted advantage of composing the picture of the full size.

It is perfectly true that in the process of enlarging the relative sizes of the different objects remain the same, but some incongruous incident which is a mere spot in the smaller print may be an eyesore when enlarged to an inch square, while atmospheric effects, aerial perspective, and the balance of light and shade are frequently quite different on the enlarged scale. There is in addition a possible loss of quality, though this is not universally admitted.

When all has been said on the matter, the photographer will be influenced in his decision by conditions peculiar to himself; the man who is gifted with physical strength and endurance will choose the larger camera, and he that cannot bear the strain must perforce be satisfied with a smaller size.

One photographer of our acquaintance has solved the problem to his own satisfaction by having a fifteen by twelve camera built very lightly, and by using paper for the negatives. As made by the workman, the camera was still much too heavy for our friend's ideal, and he proceeded by reducing the sectional area of the woodwork in various places to reduce the weight still further. A celluloid focussing screen was substituted for the ground-glass, and as it did not lie quite flat it was supported by cross bars of thin wood.

As might have been expected, these alterations have impaired not only the rigidity but the stability of the camera, and it requires very careful handling. As long as ordinary camera construction is adhered to this must be the case; reduction in weight coupled with reasonable stability can only be secured by a considerable alteration in design. With a view to accomplishing this the frame holding the reversing back should be screwed direct to the tripod and the bellows supported and the lens held in position by slotted stays from the top and bottom corners of the back frame to the lens board on each side. No swing back would be required, and the weight of the baseboard would be saved. If the frame of the focussing screen were made of aluminium such rigidity would be obtained as would permit of a sheet of celluloid being tightly stretched over it, as is now frequently used in glazing pictures that have to travel about.

Dark slides as ordinarily constructed are much too solidly made for the full advantage of the change from glass to paper to be appreciated. Something on the lines of the old Vegara slide, in which a sheet of sensitive paper was doubled over a movable septum might be revived. In loading the slides this septum slid down the centre of the slide which was fitted with draw out shutters.

Made on these lines, a very considerable reduction might be effected both in bulk and in weight of the camera. In the absence of wind its rigidity would be as great as with the existing types, and a large camera, as a rule, cannot be used with much effect on landscape subjects in wind.

Architectural and similar subjects when an assistant is usually employed do not call for reduction in weight so much, and the ordinary pattern would be preferred.

Spirit of the Times

SUBJECTS FOR THE TELE-PHOTOGRAPHIC LENS.

The heavy rains that have recently drenched the earth lead in the natural course of things to mist and haze as soon as the sun peeps forth. The lower stratum of moist atmosphere, under certain conditions, may even be seen to vibrate with the varying densities; distant objects appear to be afflicted with a constant tremor, and the use of a telephotographic lens, or, indeed, of any moderately long focus lens, becomes an impossibility. These effects are noticeable even upon what one would call a fairly clear day. On the sea coast the state of affairs is vastly different. Given the absence of visible haze over the water, and the use of the telephotographic lens is quite practical. The subjects also are those calling for this type of lens. It is just the shipping which is so far off as to be useless for ordinary camera work that shapes the best, while the intense light enables short exposures to be given, even when the lens is working at a comparatively small aperture. The butterfly pleasure yachts and deep laden coasting steamers may be taken under conditions and in perspective better suited for picture making than at close quarters, when a short focus lens is used. The holiday season has commenced, and those who have met with disappointments in landscape with their long focus lenses may redeem their lost opportunities in marine work.

* * *

FORCED DEVELOPMENT AND FOGGED NEGATIVES.

Amongst the questions that are put to us there is none more frequently repeated than a request for a developer which will bring out more detail, and give greater density in the shadows of under-exposed negatives than will the developers with which the querist is acquainted. The fact that any developer, if its action is continued long enough, will not only bring out even the faintest trace of light action, but will produce fog over the whole surface of the negative, is known by experience to the most youthful tyro, and should convince him that no other developer, even if it produced a greater amount of fog, or did so more rapidly, and that is all it could do, would be of practical service in strengthening the image. In fact, a large number of briefly-exposed negatives that might be made use of, when the time and trouble to be expended upon them are of little importance, are spoiled by attempts to push development to the farthest. A clear unfogged negative affords a basis for after-treatment that cannot be applied to one veiled over with the fog produced by forced development. When the image is uniformly thin, intensification can be carried practically to any extent, but when there are high lights already fairly dense these will probably become opaque before the shadows are sufficiently strengthened. With these subjects and from those presenting a mere ghost-like image, good results can frequently be obtained by bleaching in mercury till the image is white, and then backing it up with some black material—say a piece of insensitive carbon tissue squeegeed into optical contact—and copying in the camera, but the image must be free from fog.

* * *

SPEED TESTING WITH COLOUR SENSITIVE PLATES.

In an account of the sensitometry of orthochromatic plates, Dr. Eder has given to *Photographische Correspondenz* determinations of the relative sensitiveness of some different makes of colour-corrected emulsions to blue and yellow. A very great deal hangs on the question as to whether this relation is of any great value or not. Those who have tested the commercial orthochromatic plates by exposing them to the spectrum will have noticed that the German idea is obviously to render them extremely sensitive to spectrum yellow, and very little to green, greenish-blue, blue, and violet. The object in doing this is to make the plate record without a screen the yellows of nature as densely as the blues of equal visual intensity. The only orthochromatic test of any true value is one made in the spectroscope camera, or by exposing the plate under colour filters, such as those arranged in the Chapman-Jones plate tester. The reason for this is not far to seek. Suppose we photograph a strip of blue paper side by side with a yellow strip. What amount of white light is reflected from each? The answer to this question, if one could be obtained, is sufficient to show that no reflecting surface can be employed in testing, for even lampblack reflects *some* white light. Technically speaking, then, blue, green, yellow, and red should give equal bands of density on the ideal plate when exposed to the spectrum, or, in other words, the whole spectrum should be recorded by one even uninterrupted band. For convenience, the band should not extend far into the red, so that a "safe" red light may be used.

* * *

FORMALIN IN THE DEVELOPER.

The employment of formalin in the developer was recommended, says Herr Ballin in *Photographisches Wochenblatt*, as early as 1888, to take the place of the alkali, and, about the same time, Schering, of Berlin, employed it as a hardening agent for gelatine. The first formula was given by Lumière in 1902, and contained four ounces of water, two hundred and twenty grains of sodium sulphite, twenty-two grains of hydroquinone, and thirty minims of forty per cent. formalin solution. The characteristic action of this developer is the hardening of the film which it produces, in consequence of which the image appears more slowly, and development takes a longer time. Negatives developed with formalin have a fine black colour, but if overexposed and treated with bromide they are apt to be brown. The formosulphite compound on the market is worthy of a trial, at least for the sake of investigating the action of formalin, with which the author seems to be favourably impressed.

* * *

REVERSAL OF THE IMAGE.

The phenomenon of reversal is one that has considerable attractions for the scientific experimenter, as there are many sides to it, each of which demands special investigation. Professor R. W. Wood, who has been investigating the subject, is of the opinion that there are at least four, and possibly five, types, any one of four of which may occur in any photographic work. He enumerates them in the *Astrophysical Journal*. The first is when the plate is given three or four hundred times its normal exposure, and is developed in the usual way. The second is produced by developing the plate in full lamplight after it has been more or less over-exposed. Nipher's experiments will be remembered by the reader. The third type happens when a normally or under-exposed plate is developed and then exposed to light for a minute or two before the hypo bath. The fourth type—the Clayden effect—occurs when an exposure of about one-thousandth of a second or less is given, and the plate subsequently fogged by exposure to diffused light before development. If the images of electric sparks are thrown on a plate, and the plate is then exposed to the light of a candle for a few seconds, the spark image will develop reversed, which is not the case if the exposure to candle light precedes the impression of the spark images. Pressure marks, which normally develop black, can be reversed by exposure to X rays. The fifth type can be produced by treating an exposed plate with potassium bichromate, re-exposing it, when upon development the first image is reversed. The professor's investigations were chiefly devoted to the fourth type, and he found that if the stimuli were arranged in the following order—pressure marks, X rays, light shock, and lamplight—an impression of any one of them could be reversed by subsequent exposure to any other following it in the list; but under no circumstances by one preceding it. His theory is that light shock (the action of the electric spark) produces a negative strain, while candle light produces a positive strain, either of which yields an image on development, and that the negative strain has to be undone before the positive strain can be begun.

* * *

NON-CURLING FILMS.

Probably no improvement in any art or craft has ever been introduced which has not involved some difficulties to be overcome, necessitating, as is generally the case, some alterations in accepted methods of working. In such instances, the worker who has had some experience in the older methods is perhaps even more likely to come to grief than he who takes up the work for the first time with the new material, or under the new conditions. The Kodak non-curling film supplies a case in point. Already we have had a number of inquiries as to how the gelatine coating on the back of the film may be protected from abrasion, finger marks, and moisture, and how such markings may be removed when they occur? The finished negative, of course, should be protected by a coat of varnish on both sides, for, although it is a comparatively easy matter to avoid touching either one of the two sides it is not always easy to avoid touching both, and the tendency is greater in the case of those who have been accustomed to handling the older film. Water varnish, of course, is the accepted protector for celluloid films, which are simply dipped into it and hung up to dry. Now that the film is coated with gelatine on both sides, there is no reason why a good sample of celluloid varnish, with its better protecting qualities, should not be employed in the same manner. The objection to its use with the older film was that it had a solvent effect upon the base, and certainly caused it to warp. To remove the marks upon the back of the film, there appears to be no means short of removing the gelatine. This, though not difficult, is a tedious operation. It can be best accomplished by pinning the film face downward on a clean board, and then rubbing away the gelatine with a rag moistened in warm water, and with the addition of a little whiting.

marked, or when it presents dots or lines separated by intervals so small as to be commensurable with portions of a wave length, and only just within the optical limit of the objective employed, then reduction of the diameter of the "iris," and so reduction of the working aperture of the objective, is quite a different matter. But reducing aperture with the magnification *unchanged* means something more still, for it renders far more prominent *all the diffraction phenomena.* Put another way: lowering the N.A. of the objective whilst keeping up the same magnification

By John M. Whitehead (see page 94).

ON THE ABUSE AND USE OF THE SUBSTAGE DIAPHRAGM.

By E. J. Spitta, F.R.A.S., F.R.M.S., Etc. Special to "Photography."

It is difficult to explain, seeing the importance of a thorough knowledge of the use of the substage diaphragm in the microscope, and the full comprehension of what an important part it plays in the performance of the objective, how it is that so little has been written upon the subject. In consequence of this paucity of literature, troubles are not infrequently met with by the photomicrographer which he is incompetent to understand, and often unable to correct, simply because he cannot locate the cause—the unsuspected substage diaphragm. In the hopes, then, of assisting photomicrographers who may have been in similar troubles, some of whom have communicated direct with the writer, the following remarks are penned, not that they pretend to be of an original nature, but simply for the purpose of treating the subject as a whole.

The first point worthy of notice is that the diameter of this substage diaphragm—often spoken of and called by the simple name of "the iris diaphragm"—regulates the available aperture of the objective with which it is in use. To understand this, it is at once necessary to state that the available N.A. of the *condenser* itself is dependent upon the aperture of the "iris," because the numerical aperture of any lens is practically the ratio of the semi-diameter of the available aperture of its back lens to the focus; hence, it is obvious that curtailing what is virtually the back lens of the condenser promptly lowers its numerical aperture. But this is not all.

It is often stated that if the iris diaphragm be shut to a given N.A. the objective in use is reduced *to a similar extent*, so that if the condenser is cut down to N.A. 0.65, the objective will be reduced to that extent also. This is not true, and it is not a little curious that this oft repeated mistake has never been commented upon, so far as the writer is aware.

Owing to the fact that a certain amount of the light coming from the condenser upon the object is diffracted by it and scattered, a modicum falls upon the front lens of the objective. If the system be constructed for an aperture higher than that of the condenser taken at the moment of working, this amount of light is caught by the front lens and transmitted through the objective, partially filling its back lens.

Although this increase in the illumination is quite feeble in comparison with the direct beam coming from the condenser, still the point is that the back lens is filled with additional rays, which, filling it to a greater extent than is effected by the direct light coming from the condenser, causes the N.A. to be increased.

In order that we may be able to find approximately the real working aperture to which the objective is thus raised, the available aperture of the condenser must be added to that of the objective and the mean taken. The amount thus found is the real working numerical aperture of the objective under the circumstances.

Thus, if we use a condenser with an available aperture, say, of 1.0, and employ with it an objective of N.A. 1.40, the real N.A. at which the objective works will be found by adding N.A. 1.0 to N.A. 1.40 and dividing by 2, producing a mean of N.A. 1.20. It will be seen, therefore, that the objective really works at a slightly higher numerical aperture than the condenser.

It is a fact little known, and in a measure accounts for the experience often noted by microscopists, that with two given objectives, presumably of

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surface of the negative, is known by experience to the most youthful tyro, and should convince him that no other developer, even if it produced a greater amount of fog, or did so more rapidly, and that is all it could do, would be of practical service in strengthening the image. In fact, a large number of briefly-exposed negatives that might be made use of, when the time and trouble to be expended upon them are of little importance, are spoiled by attempts to push development to the farthest. A clear unfogged negative affords a basis for after-

twenty grains of sodium sulphite, twenty-two grains of hydroquinone, and thirty minims of forty per cent. formalin solution. The characteristic action of this developer is the hardening of the film which it produces, in consequence of which the image appears more slowly, and development takes a longer time. Negatives developed with formalin have a fine black colour, but if overexposed and treated with bromide they are apt to be brown. The formosulphite compound on the market is worthy of a trial, at least for the sake of investigating

By John M. Whitehead (see page 94.)

equal merit, more resolution can be obtained by using one of N.A. 1.4 than one of N.A. 1.0, although in *each case* an N.A. 1.0 condenser has been employed. To prove the truth of this assertion a simple experiment is needed. Use the two objectives, and after removing the eyepiece look first at the back lens of the objective N.A. 1.40, illuminated by the N.A. 1.0 condenser. The bright central illumination produced by the direct light from the condenser is seen surrounded by a distinct halo of light not quite filling the diameter of the back lens, but only up to about N.A. 1.20. If, now, the objective be changed for that of N.A. 1.0, of course the extra halo will not be seen, for the brass mount of the cell which supports the back lens will take its place.

By John M. Whitehead (see page 91).

It may as well be stated here that certain objects, and certain other conditions too theoretical to be now gone into, may slightly alter the amount of light superadded to the objective by the diffraction of the object, and so modify the final result, but the mean given is so nearly correct that it becomes in all cases a very close approximation to the actual truth.

The practical value of the addition of this small amount of N.A. .20 must not be over-estimated when dealing with a direct cone of light—indeed, it may be difficult to demonstrate its presence save by the most critical means alone; but when oblique light is used, then its importance makes its presence, or absence, keenly felt. This is obvious when we consider how this extra N.A. means an extra diameter of the posterior lens of the objective for use, and so the increase of ease with which both the dioptric and diffraction beams can be got into the area of the lens at one and the same time. The importance of this was shown and spoken about in the article, "How to Photograph Amphipleura Pellucida," in the pages of this journal only a short time since.

To return to our subject. It is now self-evident from what has been said, that the substage diaphragm, commonly spoken of as the "iris," by its varying diameter, regulates very sensibly the resolving power as well as the defining power of the objective.

One would have thought that this was far-reaching enough, but more still has to be said of the power held by this much neglected part of the microscope. When an object is well within the separating power of the objective a little reduction of the N.A. by a small closing of the "iris" will not spoil—indeed, it may considerably improve—the final image or photograph; but when the specimen is finely marked, or when it presents dots or lines separated by intervals so small as to be commensurable with portions of a wave length, and only just within the optical limit of the objective employed, then reduction of the diameter of the "iris," and so reduction of the working aperture of the objective, is quite a different matter. But reducing aperture with the magnification *unchanged* means something more still, for it renders far more prominent *all the diffraction phenomena.* Put another way: lowering the N.A. of the objective whilst keeping up the same magnification increases the circle of confusion and so spoils the final definition. To make our meaning clear, and to prove what we say is true, let us consider for a moment how to calculate the diameter of the disc of confusion in a simple and unsophisticated manner. There are two steps.

1. Find the resolution by Abbe's law, viz., multiply the N.A. of the objective by twice the number of waves to the inch of the light used. This gives us the separating power.

2. Multiply this separating *power by the magnification.*

To those mathematically inclined, the formula which follows is at once apparent:

$$D = \frac{m}{2\,(\lambda)\ \text{N.A.}}$$

where D is the diameter of disc required, m the magnification employed, N.A. the available numerical aperture of the objective in use, and λ the wave length of the light illuminating the microscope.

To take an example, let the following question be put:

What is the diameter of the disc of confusion with $m = 1000$, N.A. 1.0, and $\lambda = 47.500$ waves to the inch, the usually accepted wave length for apple green light?

Then

$$D = \frac{1000}{95000 \times 1} = \frac{1}{95} \text{ inch.}$$

Suppose now, as we previously stated, the iris is reduced so much in diameter that the available aperture of the *objective* becomes lowered to .5, then the diameter of the disc is *increased* to $\frac{1}{47}$ inch, which means that the diffraction phenomena become obtrusive and spoil the final result. Dots are not seen properly separated, and lines seem joined up and obliterated by being melted together if the object be one with characteristic periodic markings requiring the full aperture, or nearly so, for resolution.

The philosophical explanation why the effects of diffraction, just described, caused by shutting the substage diaphragm too closely should take such opposite forms, white in some cases *around* objects, but broadening out with increased blackness, divisional markings, or dots, in the *structure* of other objects, is not known. The subject is a very difficult one, involving a mathematical investigation of the most complex and recondite nature. But in considering the subject as a whole, the reader might perhaps be reminded that all diffraction effects of the type under consideration are caused by interference phenomena between the rays coming from the same source of light, one with another. Those that come in contact in the *same* phase—in other words, those of simple multiples of the same wave length—are additive, and serve to strengthen one another, causing increasing brightness; whilst those not in the same phase, being perhaps half, or any portion of a single wave length ahead or behind the others, serve to quench each other, causing darkness.

Hence, diffraction phenomena, to speak of them collectively, are characterised by what is termed bands of brightness and bands of darkness, or better described as being arranged in maxima and minima. This will be readily seen around the so-called point of light as seen in the telescope when focussed on a star; it is surrounded with rings of brightness and rings of darkness, first one and then the other. Now the same arrangement of phenomena, it may be assumed, takes place about the image of an object other than a star or point of light, such as one would meet with in the microscope; hence, it has been thought that the reason these phenomena appear to vary, sometimes a white line around an object, whilst on another occasion an increase of darkness in the dark parts already existent, is because from some hitherto unexplained cause—probably some remote effect of contrast—the eye in one case recognises a maximum and at the other a minimum effect; in other words, sometimes sees a bright band and at others a dark one.

Whether this be true or not it is difficult to say, and the explanation is only submitted by those who have paid much attention to the subject, for what it is worth.

The practical point for the photomicrographer to remember is not to shut his substage diaphragm so far as to cause these optical effects, and to remember also that the plate shows them up much more prominently than the eye sees them in the instrument when visually used. This point is well worth being borne in mind, for not a few—especially those beginning high power work on bacteria—have been much puzzled at the white line effect shown in their prints, which they declare they cannot see on the screen. Indeed, this is true, for it takes some little practice to catch the defect when focussing on the ground-glass; the granularity of the rough surface seems to make detection far more difficult than it may be imagined. The photographer, however, should practise this detection whilst focussing, because it will save him many a bad negative and much waste of time.

It may seem strange, after condemning the closing

By John M. Whitehead (see page 94).

of the substage diaphragm, to point out immediately that at times the formation of these diffraction phenomena is of great service to the photomicrographer, but so it is. We refer to the photography of such objects as unstained bacteria, where their transparency is so great that they cannot be otherwise seen, or photographed. To enable a negative to be taken of such extremely transparent objects the iris diaphragm *must* be closed a little, so that a very faint bright line may surround these little organisms, and thus enable them to be differentiated from the background. It is needless to point out the contraction of the iris should be in this case *as little as possible*, so as not to make the effect too pronounced, but still sufficient to delineate their individuality as to form and shape.

COMPETITIONS FOR PHOTOGRAPHS taken at Broxbourne and Enfield were held at the Bowes Park and District Photographic Society on the 20th ult. with the following results. Broxbourne: R. E. Gardner first, A. J. Craston second, and — Goodfellow third. Enfield: A. J. Craston first and L. Gardner second.

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MESSRS. WATSON AND SONS, of 315, High Holborn, London, are now issuing specimens of work done with their Daylight enlargers, and will be pleased to send copies to those dealers who stock the apparatus. The specimens are made from negatives which won prizes in the competition recently held by Messrs. Watson and Sons.

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THE SIXTH EXHIBITION of the City of Belfast Y.M.C.A Camera Club will be held from the 28th to the 30th of October. Four gold, nine silver, and seven bronze medals are offered for competition. Entries close on October 14th. Full particulars can be obtained from D. J. Hogg and H. Cochrane, honorary secretaries, at 3, Trinity Street, Belfast.

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THE COATBRIDGE PHOTOGRAPHIC ASSOCIATION will hold an exhibition from the 17th to the 31st of October, in which there will be five open classes. A silver and a bronze medal are offered in each. The judges are Messrs. Jas. N. MacLaurin, Jas. Patrick, and J. W. Eadie. Entries close on September 28th. Full particulars can be obtained from the Secretary, Ailsa Cottage, Coatbridge, N.B.

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A SOUVENIR in the form of a representation of Shakespeare's cottage at Stratford-on-Avon printed in colours is being issued by the Great Central Railway Company to advertise the excursions to Stratford during the season. The excursions take place on Mondays, Thursdays, and Saturdays, and the fare (12s.) includes luncheon and dinner. Copies of the souvenir can be obtained free on application at Marylebone Station, or any of the company's town offices or agencies.

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"PHOTOGRAPHY CANNOT LIE" used to be a popular saying, but the members of the South London Photographic Society who were present at Mr. E. W. Taylor's lecture the other night are of opinion that, in Mr. Taylor's hands at least, it can prevaricate to an extent that answers the same purpose. The subject of the lecture was "Faking the Negative," and Mr. Taylor showed, by means of lantern slides made from the negatives before and after treatment, how it was possible with knife and pencil to remove obtrusive things such as houses, fences, telegraph poles, and the like, in one instance even taking out completely a figure in a group, thereby improving the composition! When it is remembered that these results passed the very severe test of enlargement by the optical lantern without showing traces of the alteration, it will be understood that Mr. Taylor is a master at this class of work.

THE LATEST "PHOTO-MINIATURE" deals with studio construction. It is copiously illustrated with diagrammatic drawings of the studio and reproductions of portrait and figure studies by Mrs. Gertrude Käsebier.

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A PHOTOGRAPHIC EXHIBITION will be held at Cambridge on September 9th and 10th. It is organised by the Cambridge and District Photographic Club in conjunction with the Cambridge and District United Horticultural Society. The judges are Messrs. W. B. Redfern and J. Palmer Clarke. Entries close on August 31st, and full particulars may be obtained from the honorary secretary, Mr. T. J. Sowdon, Sunny Side, Guest Road.

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DEMONSTRATIONS TO SOCIETIES will be given by Mr. W. F. Slater, F.R.P.S., on the use of Messrs. Wellington and Ward's films and papers, and on Messrs. Butcher and Sons' Coxin, which permits of developing being conducted without the use of a dark room. Secretaries of societies who have evenings to fill up should note that Mr. Slater's address is 68, Longhurst Road, Hither Green.

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THE EXHIBITION of the Rotherham Photographic Society will be held from the 14th to the 17th of October. There will be five open classes, in which silver and bronze medals and certificates will be placed at the disposal of the judges. The judges are Messrs. C. Barrow Keene and T. A. Scotton. Full particulars and entry forms can be had from the honorary secretary, Mr. H. C. Hemmingway, Tooker Road, Rotherham.

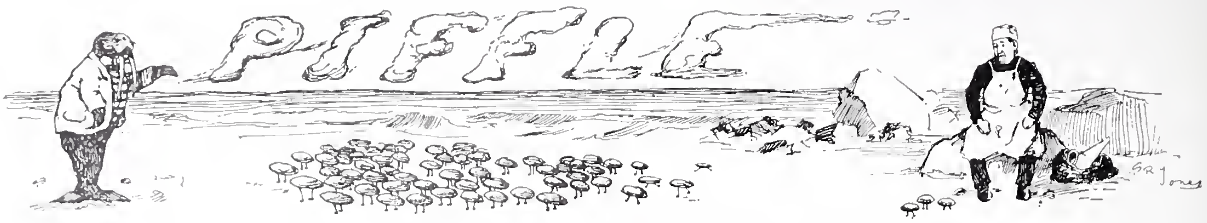
The following specifications of patents relating to photography have been published, and copies may be purchased at an uniform price of 8d., at the Patent Office, Sale Branch, 25, Southampton Buildings, London, W.C. The price of the specifications includes postage to any part of the United Kingdom. The additional postage to foreign countries is usually ½d. per specification. Postage stamps must not be sent on payment of any amount exceeding 11d. In ordering the name of the patentee and both the number and year of the patent must be given.

1902.

15,364.—Clarke. Storage of photographic cards.
19,363.—Newman and Guardia, Ltd. Cameras.
19,437.—Edwards. Flexible films.
19,631.—Kodak, Ltd. Developing apparatus.

1903.

12,677.—McIntire. Printing apparatus.



"The time has come, the Walrus said, to talk of many things."

It is said that a well-known Scottish photographer of still life placed some carbon prints of fruit studies out of doors to dry. The sparrows, completely deceived, ate the fruit; and the photographer had sparrow-pie for dinner.

* * *

On another occasion he photographed a subject composed of a bottle of stout, a chunk of bread and cheese, and some spring onions. Looking at the print a week later he saw through the tears that the onions caused to spring from his eyes that the bread was mouldy, the cork had blown out of the bottle of stout, and the cheese had walked away in the most approved cheap restaurant manner.

* * *

The other day, when the temperature was at about cayenne point, I got into a railway carriage occupied by a party of members of a photographic society out for an outing. I sincerely trust that it was solely due to the exceptional atmospheric conditions that the conversation turned on the probabilities of the route they had laid down taking them past a hostelry. Or, to be more exact, leading them to a hostelry.

* * *

Now, in the course of this momentous discussion, a panama-crowned gentleman (who looked like Mr. J. C. S Mummery but wasn't) made a remark that ought to be recorded in marble. It would form a fitting motto for every photographic society, and should be inscribed in letters of gold on every box of plates and packet of paper sold. "Look here," said he impressively, "photography and booze won't mix."

* * *

I don't know how he came to be in a position to speak with such certainty and emphasis, but there is the truth plainly stated, and I hope it will be accepted at once by those photographers who have been for years strenuously and persistently attempting the impossible. The two things won't mix. Therefore the rational course is obviously to give up one of them. And yet I should be sorry to see the ranks of photographers so seriously depleted.

* * *

The dictum is, moreover, a serious blow to those workers who have so eagerly adopted recent suggestions as to the advantages of adding stout or port wine to the developer. And those who have so stoutly contended that whiskey is the only reliable form of alcohol for rapid plate drying will have to reconsider their position. For I need not point out that the dainty word "booze" includes each and all of these useful adjuncts to the dark room.

* * *

Probably most readers of this page have had the pleasure from time to time of being asked to express an opinion on some of these "beautiful little gems" taken by beginners. You are handed a print made by little Tommy Jones, who has had a "Blackie" camera for nearly a week, and "What do you think of that?" asks Tommy's proud pater.

"Capital, capital!" you murmur.

"But you have got it upside down," says pater.

"Er, yes, well you see that's a sort of test of my own that I always apply to a photograph, and held in this way I at once see that it is an excellent likeness"

"But it isn't a likeness."

"Well, of course, I use the word in a broad sense. I mean that the view is well rendered."

"But this is a dog."

"Quite so. A dog, of course. And I can assure you, sir, that I know many photographers of long experience and high reputation who do not turn out work like this. It reminds me of brush work. I can hardly believe that the camera has played any part in its production. Your son, sir, has a future before him."

* * *

And you mentally hope that if Tommy Jones does not abandon photography his future may be abnormally short

It is strange but true that the finest work in photography is not in focus, and that many things in focus are woefully fuzzy-wuzzy.

* * *

I have been reading an account (in an Anglo-American journal) of one of these heaven-sent geniuses in photographic work of whose achievements we hear so much and of whose masterpieces we see so little. This particular genius commenced by knocking up a lean-to dark room and covering the chinks with brown paper. That sounded at first like one of my friend the Carpenter's jobs, but the statement that the genius "had a decided knack for carpentering" put poor old Carp out of court directly. The genius had had only six months' experience of photography, yet "his pictures were beautiful little gems, the gradation of light and shade as perfect as though laid on with a brush."

* * *

The account does not state whether the brush was the same one he tarred the dark room with.

* * *

There are many landscape workers who may be described as constructive and destructive workers. They improve on nature. The view as it stands is never right, and they proceed to patch it up. They transplant foreground ferns and shrubs, tie up boughs of trees with twine, and carry decoy ducks to put on ponds.

* * *

I personally know two of these hard workers who always carry a load of whiting with them. Powdered along the short grass this comes out as a path, and plastered on the tree trunks it forms high lights. This latter dodge is peculiarly useful to the next comer if the genuine light happens to fall on the unchalked side. Talk about cross lighting!

* * *

These same two also carry a smock, and take turns at being the truly rural figure. They think nothing of hacking down a hedge with their penknives, or of tying artificial poppies to the grass stems. They will divert a stream to suit their purpose, and drag unwilling victims captured by the wayside for miles and miles to photograph them in particular surroundings. Sheep and cattle are driven hither and thither, and in short the face of the whole countryside is changed (for the worse) whenever they turn out on one of their expeditions.

* * *

One of this type of workers is reported to have devoted an enormous amount of time and energy on one occasion to collecting huge numbers of pine-cones to scatter under some trees in his picture, and was asked afterwards how it was that pine-cones had fallen from silver birches.

* * *

It was evidently a disciple of this school who recently suggested in the photographic column of a provincial paper that artificial "atmosphere" could be readily manufactured in a landscape by burning quantities of wet straw behind a hedge. This plan should only be adopted in the neighbourhood of buildings or hayricks, and the farmer should be distinctly given to understand that the flames are kindled in the interests of photographic art. Otherwise he might be cross.

THE WALRUS.

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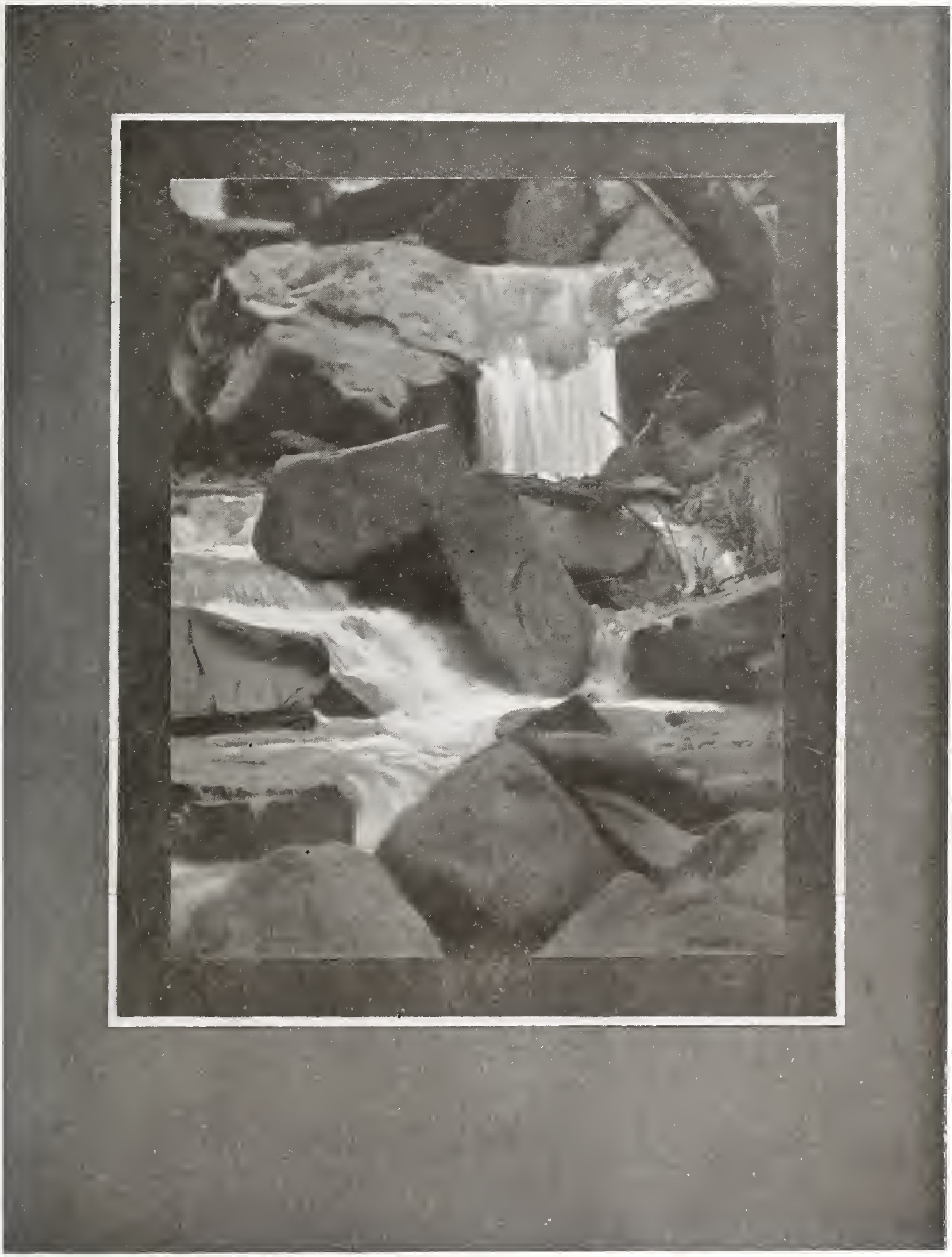


IN HEBER'S GHYLL (See Page 115). BY ERNEST MARRIAGE

The Light in which to Develop Orthochromatic Plates.

BY SIR WILLIAM ABNEY, K.C.B., F.R.S. **Special to "Photography."**

At the present time there are in the market many brands of isochromatic plates and films. Some approach to orthochromatism; but others, being merely sensitive to the yellow-green, besides the blue and violet, are presumably prepared with eosin or some of its analogues. The makers of such plates very rightly insist on such plates or films being developed in a light which is deep red; and when we say "rightly insist," we mean that they do so where such plates are to be used by "amateur amateurs."

The directions given by the makers with all brands of plate, ordinary or otherwise, are that a safe light must be used, and in the word "safe" is comprised a good deal more than at first sight appears.

Were we to tell anyone that he could develop a rapid plate in the light of an unshaded candle, he would believe or disbelieve us. In the first case he would probably use a naked candle with good illumination on the plate, and get, of course, inevitable fog, and with it his faith in us would naturally be turned into unbelief; and yet it is quite true that a plate can be developed in the naked light of a candle if only it is diminished in illumination by being placed far enough away.

The writer of this communication when abroad was reduced to placing a lighted candle beneath the table on which he was developing, and he got sufficient illumination to see his plate from the light reflected from the ceiling. A card to slip over the developing dish when the plate was covered with developer made all things sure; and when the image was seen, the effect of the light became less potent, and a larger amount of illumination was possible.

The same plan may be used for isochromatic plates, but not quite so safely, as in candle light there is a larger proportion of those rays which affect the surface than with the ordinary plate.

It may be accepted that with very nearly every plate there is no colour of light which is absolutely safe. Thus, with one brand of ordinary plates the extreme red of the spectrum will after a time impress itself, and the writer has used this very brand of plate in three-colour work, giving the negative produced by exposure through the red screen some 180 times that which was required in ordinary white light.

Evidently then, a red light is not a *safe* light in such a case, if the exposure of a plate to it is prolonged, though it may be used with impunity when care is taken. If a plate held vertically at two feet from such a light requires thirty seconds before any palpable impression is made when the developer is applied, it is quite certain that a plate may be placed in a dish covered with a developing solution, and an image evolved before any fog due to exposure to the red light will take place.

The plate moreover is held in a horizontal position, when less light falls upon it, and the whole process of development may be proceeded with, and no bad effects obtained. Similarly, a plate, such as the "Spectrum" plate, which is much more sensitive to the red than the plate just mentioned, can in some five seconds be placed in the developing dish and covered with developer. A card placed over the dish prevents any further access of light to it, and the image can be well brought out in what is practically darkness.

It appears that after the developer has taken firm hold of the film of sensitive salt, the sensitiveness due to the colour sensitiser is destroyed, or very largely reduced. Owing to this perhaps, the plate can then be brought nearer the light and development finished, the image being examined from time to time by transmitted light and the back examined to ascertain if the density is sufficient.

The writer adopts this plan himself, and even uses a paper lantern made of one thickness of canary medium and another of orange paper instead of any pure red light. The lantern has a window at one side where the light coming through has only to pass through the canary medium, the orange paper being cut away. This window is utilised when the negative is nearly complete. The negatives developed in this manner show when fixed unfogged gelatine where the rebate of the slide comes.

For any other isochromatic plate, the same plan may be adopted, using the same light. But it must be remarked that care must be taken and a certain amount of expertness exercised in covering the plate with developer. There must be no stint of liquid, otherwise the plate may not be covered.

There is, however, for isochromatic plates a much pleasanter light, and one practically white to the eye. If a lantern be formed of chromium green glass, and orange paper be pasted on the glass, we have the light from a candle coming through it apparently white, and when it falls on a white surface in a dark room, such surface appears colourless.

This light, though extremely feeble, will so illuminate a plate that the detail of the image can be seen. In reality it is such a feeble light that the red in it ceases to excite the retina, and the green that passes through is so lowered in intensity that it loses its colour.

This is not the place to enter into the reasons why the light appears white, but if any of our readers care to know the reason a reference can be given them.

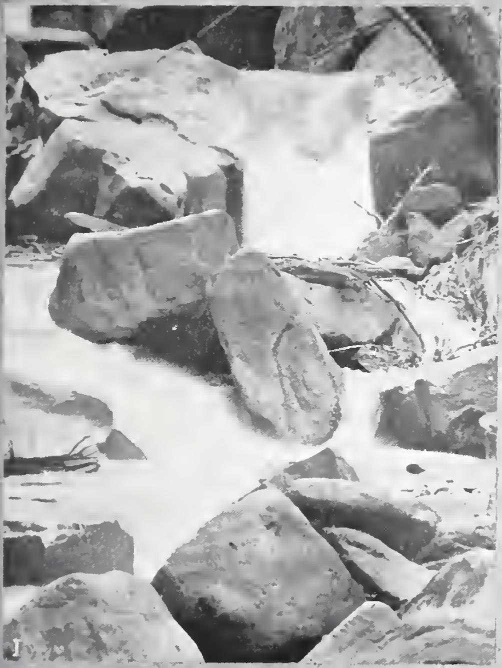
An isochromatic plate can be developed in this light, for it will be some time before it would fog a plate lying horizontally in the dish, the principal part of the light being composed of those rays which lie in that part of the spectrum to which the eosine does not sensitise.

A blue-green glass (often called signal green) is better for some than the chromium green, but it should be of strong colour, or else two thicknesses must be used. This cuts off more of the red and orange than the chromium green.

This combination reminds one of the fact that this quality of light was used by the writer in 1876 for developing pure bromide-collodion plates, which were sensitive not only to the blue and violet, but also to the dark rays of the spectrum below the red, as it was found that at that part of the spectrum the peculiar form of bromide of silver employed was much less sensitive than it was above or below it, that is, in the red and yellow and in the blue-green. It was owing to this previous use of the combination of green and orange that it was tried for these orthochromatic plates.

Later, but many years ago, Mr. W. E. Debenham advocated the use of canary medium and green glass (cathedral green) as a pleasant light in which to develop ordinary plates. There is no doubt that such light is much less trying to the eyes than red light, and that it "reaches" much further into the dark room.

A feeble red light is a very bad light in which to illuminate any object at a distance, whilst a green light is the best, that is, so far as visual impressions are concerned. The illumination of feeble red dies out much more rapidly than is indicated by the law of inverse squares of the distance, which law is nearly true for white light. The green, it may be added, more nearly obeys this law than does the red.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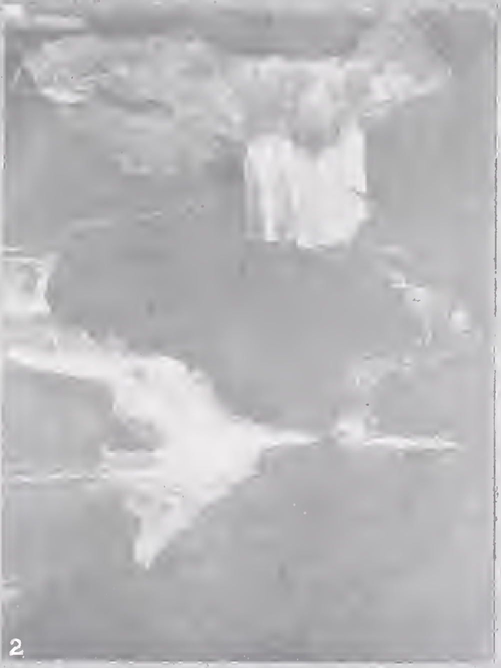
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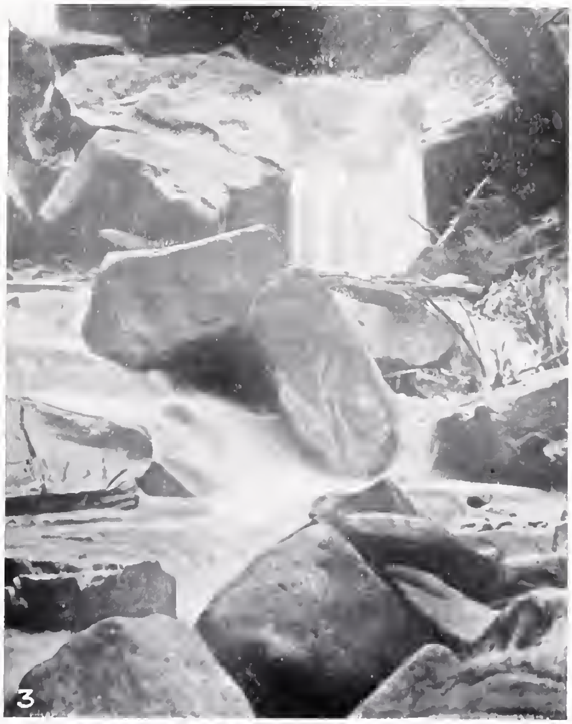
Running Water.

By E. Marriage. Special to "Photography."

MOST attempts at photographing streams fail in one of two ways—either the water is a white mass, motionless, with the surroundings well shown, or gradation and life are apparent in the water, whilst the banks or rocks in its course are sombre. Having failed many times in each direction, I lately determined to try the effect of combining two such failures. Prints from the separate negatives are seen in figs. 1 and 2.

The example of long exposure (fig. 1) was produced on a colour sensitive plate with a colour screen, and the exposure given (one morning in February) was just short of three minutes, the lens working at f/24. There are good detail and gradation in the boulders in the beck, but the high lights in the water are completely blocked, which give an appearance of under-exposure to the print. Fig. 2 is the result of a short exposure—about one-twenty-fifth of a second with a focal plane shutter. The lens was set at a larger aperture—f/9. A similar plate was used in this case, but the colour screen was omitted. Even then the exposure was far too brief to secure any gradation in the rocks, but this time something of the sparkle and movement of the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stream is preserved. Special care was taken to avoid movement of the camera between the exposures. No attempt at a compromise was made in the development. Fig. 1 is purely intended to represent the rocks and stones, and fig. 2 the rushing water. It is desirable that the negative corresponding to fig. 2 be thin, that the high light detail may print readily without making the shadows too heavy.

To make a combined print from the two negatives on P.O.P. is an easy matter. Print the rocks to about half strength under negative 1, then place the print in register under negative 2, and expose until the detail in the water is sufficiently strong. By that time probably the rocks will be dark enough; but if not, then No. 1 negative may be again requisitioned. "In Heber's Ghyll" shows the combined photograph obtained from the negatives which gave the prints reproduced in figs. 1 and 2, without any retouching or dodging.

It will be seen that this plan has the effect of reducing the contrast in the dark parts of the subject, as whilst the print is under No. 2 negative, the shadows are evenly toned down. If necessary, a mask can be used at this stage of printing. The simplest way is to use a strong, under-exposed transparency from the negative corresponding to No. 1, and place this over negative No. 2 during part or all the time it is being printed. It will be found a convenience to make the transparency on a size larger plate than the negative, as registration is then easier. The glass sides of negative and transparency

are placed in contact. The separation between the masking and negative films, two thicknesses of glass, is not of great importance as a rule, though, if necessary, a positive on thin celluloid film may be used between the negative and the print. Fig. 3 is an example of the use of a glass transparency as a mask in the manner described above. The detail in the rocks very closely approaches that in fig. 1, but it is a doubtful gain; their lightness competes with and detracts from the brightness of the water. "In Heber's Ghyll" (page 113) is free from this defect.

In the same way it is practicable to obtain natural clouds in photographs. The three views of a house (numbered 4, 5, and 6) were produced similarly to the series already described. Fig. 4 had ten seconds exposure and fig. 5 one second, but a colour screen was used for both. Fig. 6 is an "unfaked" combined print. The clouds in the photographs were white against a blue sky.

When one or two prints on P.O.P. are all that are required, there is no need to depart from this method, but if many copies are wanted, or prints by other processes are preferred, a fresh negative should be made in the camera from a glossy combined print. If an enlarged negative is contemplated, this is the stage at which it should be made.

QUESTIONS AND REPLIES

Readers wishing for information upon any specific point in connection with photographic theory or practice are invited to make use of the "query form," which will be found amongst the advertisements. All enquiries must comply with the conditions stated upon the query form; those which do not do so are neither acknowledged nor answered. All enquiries are answered by post. We cannot undertake to make replies in the paper. We print below from time to time a selection from the queries we receive, and our replies.

NEGATIVE LENSES TO MAGNIFY THE IMAGE.

I shall be glad if you can answer the following question. What are the foci of the negative lenses required with a quarter-plate anastigmat lens to give two, three, four, and five magnifications?

As the focus of the quarter-plate lens is not given we cannot give the exact foci of the supplementary lenses. They can be found, however, by applying the following rule. Let f equal the focus of the original lens, f' the focus of the supplementary lens required, and F the focus of the desired combination. Then

$$f' = \frac{f \times F}{-f - F}$$

As the size of the image is proportionate to the focus of the lens employed, the desired combinations must have focal lengths twice, three times, four times, and five times that of the original lens. Assuming the quarter-plate lens to have a focal length of six inches, the new combination to give a magnification of two diameters must have a focal length of twelve inches. Substituting figures for the symbols we have

$$\frac{6 \times 12}{-6 + 12} = \frac{72}{6} = 12$$

and the negative lens must be of twelve inches focus. On the same assumption the foci of the other supplementary lenses will be —9, —8, and —6 inches.

LIGHT AND DARK VIGNETTES.

The enclosed prints cut from a magazine give an idea of what I want to do. Will you explain if such vignettes are produced in the camera or if there are patent vignetters that can be used?

When a vignette is required with the edges lighter than the figure and the background, the usual method is to attach in front of and about an inch away from the printing frame a sheet of cardboard with an oval or other shaped opening in it. The edges of the opening should be serrated to diffuse the light, and with the same object it is customary to cover it over with a piece of tissue paper. The greater the distance of the vignetter from the negative the softer and more gradual will be the vignette. The half of a plate box attached to the printing frame bottom upwards with an opening cut in the bottom will serve the purpose. The clouded effect in the examples may be obtained to some extent by varying the shape of the opening. Wisps of cotton wool are useful in doing this, but in all probability the clouds were painted on the background. When the edges of the vignette have to be darker than the background, as in one of the examples, the effect may be produced in the negative at the time the exposure is made by placing a mask, with an opening of suitable size and shape, in the camera between the lens and the plate. This will shield the edges of the negative, leaving them clear glass. Similar effects can be obtained from an ordinary negative by printing the image right out and then shielding the central part with an opaque mask, which is kept in constant motion until the edges are printed deep enough.

PERSPECTIVE WITH LENSES AND PINHOLES.

Upon comparing my photographs with the scenes from which they were made, there is much discrepancy in the sizes of distant objects, which are always too small in the photograph—in fact, the perspective is greatly exaggerated. Of course, this is the fault of the lens, but what is the remedy? I suppose the image given by a pinhole would be true, as the rays are not twisted round lenses? Where can I get instructions to make a pinhole camera, and what would be the exposures (approximately) between a pinhole and a single snapshot lens?

The size of every object is the same upon the negative and print as it is upon the focussing screen, and the perspective is absolutely correct. The relative sizes of near and distant objects are precisely as we see them when standing by the side of the camera. Atmospheric conditions and, to some extent, the fact that we see things stereoscopically assist us in judging their magnitude. These conditions are absent in a picture upon a flat surface, hence the feeling of disappointment. A pinhole set at a distance from the plate equal to the focus of a certain lens will give an image of precisely the same size and in the same perspective as the lens will. The perspective is determined not by the nature of the optical contrivance nor even by the length of focus when a lens is used, nor by the extension of the camera when a pinhole is employed, but upon the station point taken. By using a long focus lens, say nine or ten inches for a quarter-plate, and longer in proportion for a half-plate, the scale of the image will be nearly double that given by the lenses commonly used in these cameras. At the same time, no near object should be allowed to appear in the picture, or, being on the same enlarged scale, it will by comparison dwarf the size of the distant objects. There is no difficulty in making a pinhole plate and using it with an ordinary camera, by following the instructions given by Mr. Combe in our issue for July 4th this year. The size of the hole to be used depends upon the extension of the camera, or *vice vérsa*.

The best size of hole for any given extension of camera is found by dividing 120 by the square root of the required extension. As, for example, if the extension is to be nine inches, the square root is three, and that divided into 120 gives us forty. One-fortieth of an inch, then, would be the diameter of a pinhole for that extension. Similarly, one-thirtieth of an inch would be the best size of hole for an extension of sixteen inches, and one-twenty-fourth of an inch for an extension of twenty-five inches.

A simple method of calculating the exposure with pinholes is to regard the fraction denoting the diameter of the hole as its focal value. The three apertures mentioned above would work at f/40, f/30, and f/24 rspectively. The exposure may be calculated as for one of these apertures, and then must be multiplied by the square of the extension of the camera. Assuming that the correct exposure with f/40 was one second, then with nine inches extension the exposure would be eighty-one seconds. The fitting of the pinhole plates to the camera need present no great difficulty. If the lens commonly used is fitted with Waterhouse stops, the pinhole plates may be trimmed to fit the slot, so that the pinhole shall be in the centre of the mount when the lens or lenses are removed, and the exposure may be made with the lens cap in the ordinary manner. When the lens mount is fitted with an iris diaphragm this arrangement cannot be carried out; the pinholes, however, may be punched in a circle round the edge of a disc, and this can be fitted in front of the opening in the lens flange after the manner of a rotating diaphragm.

PHOTOGRAPHING IN NORMANDY.

I intend to take a stand camera with me to Normandy and shall visit Havre, Trouville, Port l'Eveque, Lisieux, Caen, Bayeux, Valognes, and Cherbourg. Is it necessary to obtain permission to take photographs with a stand camera in these towns? Information as to getting the necessary permits will be welcome.

We were in Normandy last year and visited the towns mentioned with a stand camera. In no case did we meet with any interference except inside Rouen Cathedral. Permission to photograph there with anything but a hand camera must be obtained from the Ministry of Fine Arts, Paris. Photography, whether with a hand or stand camera, in the streets of the Norman towns seems to be quite freely permitted.

SIZING SINGLE TRANSFER PAPER.

Will you kindly tell me how to size paper for carbon single transfer?

The size for single transfer paper is gelatine four ounces, water thirty ounces, and thirty grains of chrome alum dissolved in one ounce of water. Should the alum cause the gelatine to become ropy it may be restored to the fluid condition by adding acetic acid cautiously. The solution is spread as evenly as possible over the surface of the paper, which is then hung up to dry. A method which is more convenient when small quantities of paper are to be dealt with is to coat the paper with plain gelatine and then to immerse it in a five per cent. solution of formaline, or in a solution of chrome alum the strength of which is not material.

BLISTERS ON BROMIDE PAPER.

I made a number of prints on bromide paper recently and have everyone spoilt through blistering. They were developed with metol-kinone, fixed in plain hypo, and were not touched with the fingers except at the corners. The blisters appeared after they had been squeegeed twice, as recommended by Lumière. Would formaline in the fixing bath improve matters?

Although blistering with bromide paper was at one time common enough we have not experienced it for many years past. The fault may arise from the use of caustic alkali or of an excess of the mild alkalies (carbonates), or from transferring the print from a warm solution to a cold one or *vice versa*. Any extreme change in temperature may lead to blisters. The temperature of the developer is likely to be high in the summer time, and if the hypo is dissolved just before it is wanted it will be many degrees colder. Squeegeeing the prints to remove the hypo is also likely to lead to blisters in the summer time. The remedy is to keep all the baths at about the same and as low a temperature as possible (not higher, say, than 65° Fahr.). Keep the proportion of alkali low, or use amidol as the developer—it requires no alkali—abandon the use of the squeegee in the summer months, and wash as quickly as possible by changing the prints from one dish of cold water to another about ten or twelve times. Two or three drops of formaline to each ounce of fixing bath will do no harm, but ought not to be necessary. The formula for the amidol developer is: Amidol 1 grain; sodium sulphite, 10 grains; water, 1 ounce.

FOG ON NEGATIVE.

Please tell me the cause of yellowish fog on a negative? It appears clear when held up to the light, but when held away from it is foggy.

The fog may be simply the result of the plates being stale, or it may be that known as dichroic fog, which is green by reflected light and yellow or red by transmitted light. This latter is most common with orthochromatic plates, and particularly with those that have been developed with ammonia. With pyro-soda and the newer developers the fault does not so often make its appearance. We have found that plates which are stale, and those that have a tendency to give red and green fog with most developers, give perfectly clear images when developed with Kachin.

The so-called dichroic fog, once it has been formed, may in most instances be removed by bleaching the negative in a five per cent. solution of iron perchloride, after which it must be thoroughly washed and redeveloped with a clean working developer. Grey fog, resulting from the plates being stale, and which is generally strongest round the edges of the plate, may sometimes be got rid of by bathing the negative in a freshly-made solution of hypo, to which enough potassium ferricyanide has been added to make the solution of a yellow tint.

ILLUMINATION OF THE DARKROOM.

I am having a small dark room made—3ft. by 6ft. by 6ft. What colour should the interior be, and is oil paint or distemper the better for the purpose? The room will be placed at the rear of the house. What size should the window be, and how should it be glazed?

Oil paint is better than distemper, as it can be washed down occasionally, and will not suffer from damp as distemper would in an out-of-door structure. If the illuminating media were absolutely perfect, the interior might be painted white with advantage, but the safer plan will be to use a bright scarlet, which will absorb most of the actinic rays, and reflect only those that are harmless. The size of the window may be two feet square, and should be glazed with one thickness of ruby and one of orange glass. One side of the latter may be ground with advantage, as it will diffuse the light better. An additional sheet of ordinary white ground-glass will have the same effect. As daylight is very variable in quality, particularly if direct sunlight can fall upon the window during some hours in the day, it is advisable to have a sliding slash inside, covered with ruby fabric, which can be instantly drawn down or raised as may be required. Artificial light is always more constant than daylight, but in so small an apartment it would be inadmissible inside, and we presume it would be inconvenient to have a gas jet or oil lamp outside in a lantern built round the window.

NOTICE TO ENQUIRERS.

Answered by post: J. H. Grant, M. Hennell, H. Vezey, B. L. G., T. H., Professional, H. J., C. Cooke, W. T. Gilbert, T. F. E., G. Cropredy, Constant Reader, G. J. K, Arthur Henderson, J P., H. Marshall, W. T. C., W. L. Merriden, Michael Halloran, I. F., Grant Chatham, F. Richmond. A. Llewellyn, Films, Percy Sanderson, Newcastle-on-Tyne, L. R. T. C., Puzzled P. Andrews, Bristol, E. C., Carbon Printer, W. Smith, Apek, U. E, G Downing, W. Mannel, Subscriber, J. T. C., W. H. B., Bertie, Amidol, G. Sullivan, N. W. P., C. Knight, J. Ritchie, Ursa Major, W. G. A., C. Osbaldeston, G. H., Zoologist, T. R. C., X. Y. Z., H. W. Everitt, Apprentice, Bromley, R. V, H. Gray, E. R. B., F. H., W. E. Donovan, J. Lawton, E. A. Wilby, Halation, Nil Desperandum, Mrs. Craven-Greene, W H. J., Anastigmat, P. Gleeson, Redditch, Swindled, Scot, George Croft, Walter Sturge, C. T. F. Ignoramus, R. F. Lowndes-Norton, Guinea Camera.

Building a Landscape. By B. C. Wickison.

Special to "Photography."

HOW often do we meet with subjects that nearly—ah, that "nearly"!—fulfil our pictorial aspirations, but which have some one thing wanting, or one thing too much which prevents us from securing what might be our *chef d'œuvre.* It may be the foreground or it may be the distance that is not to our liking. We may find a graceful bend in a stream which pleases us, but the background is a straight row of trees, or possibly there are no trees at all. Who has not found a happily grouped farm building with an empty and uninteresting foreground?

The question then is, why not expose a plate on the graceful stream and introduce a suitable background, and another plate on the group of buildings, and combine with it an interesting foreground? This is the day of "combines," so I say "Why not?"

It has been said that this is not legitimate photography. What is "legitimate photography"? It is legitimate painting, and is probably only "illegitimate" to those who find that they cannot do it. A photograph must be judged by what it is, not by how it was produced. Of course, the photographer must not create a picture which is false. The distance must be in correct proportion to the foreground, the lighting must in both cases be identical, or they will be incongruous, and the results untrue. To minimise this it is generally desirable that both negatives should be taken in a diffused light.

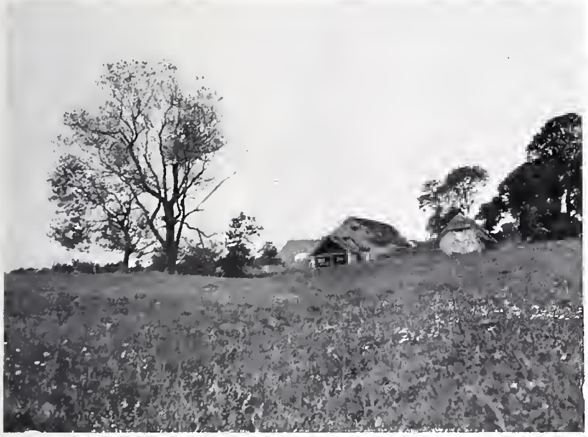


Fig 1.

It was in this way that "A Hampshire Farm" was produced. The group of farm buildings in Hampshire I had admired several times, but, as will be seen in fig. 1, the foreground is simply a stretch of meadow. So, having obtained my negative of the buildings, I kept a look-out for a suitable foreground. This I found on the little river at Wheathampstead, as will be seen in fig. 2. The clouds were next to be settled upon. For this purpose an evening sky was selected, a straightforward print from the cloud negative being given in fig. 3. Moreover, as it will be noticed that the stream in fig. 2 is a blank white patch, a negative was taken which bore upon it some ripples (fig. 4), and these were inserted in the white patch of water.

The negatives were all quarter-plate size, and the method of obtaining a combined result was as follows. First, the negative of the farm was taken, and a contact P.O.P. print made of it with a straight vignetting mask across the foreground. In this way a print was obtained of the farm and trees by themselves, except for a space of about an eighth of an inch under the farm, which showed the ground on which it stood, and ended off in a soft line. This, when printed to the usual depth, was taken out of the frame and placed behind the foreground negative, fig. 2. It was again printed, this time with the vignetting mask placed across the upper part, just covering the farm. In this way a print was produced, in which the farm and

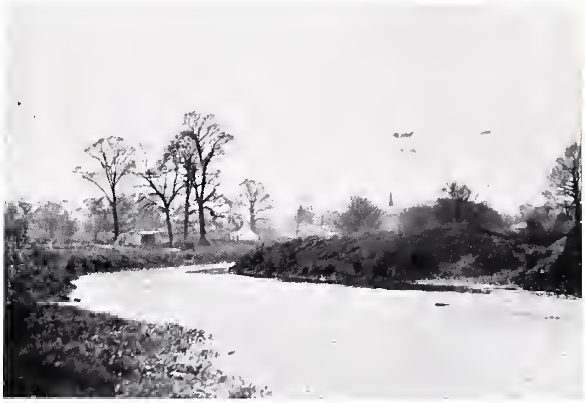


Fig. 2.

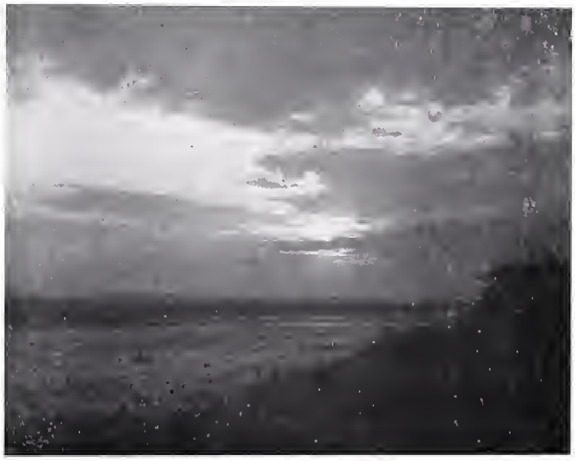


Fig. 3.

river were properly combined. The print was now placed behind the sky negative, the lower part was shaded, and the sky printed in. Again, it was removed, and, lastly, it was put behind the negative of the ripples. The upper part this time was shaded with the mask.

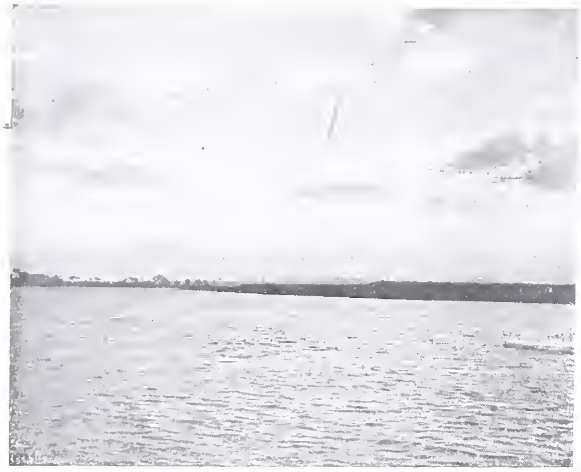


Fig. 1.

The result of these four printings is shown in fig. 5. The print was toned in the usual way, and mounted, pinned upon the copying board, focussed for enlarging up to 12 by 10, and a plate exposed upon it. In this way a 12 by 10 negative was obtained with all the four parts combined, making its printing in carbon a simple matter. The final result was reversed, as I was of opinion that it improved the composition. Whether this is so or not can be estimated by comparing fig. 5 with the full size reproduction at the bottom of this page.

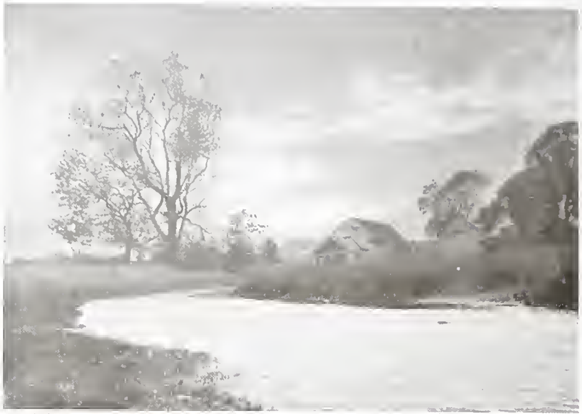
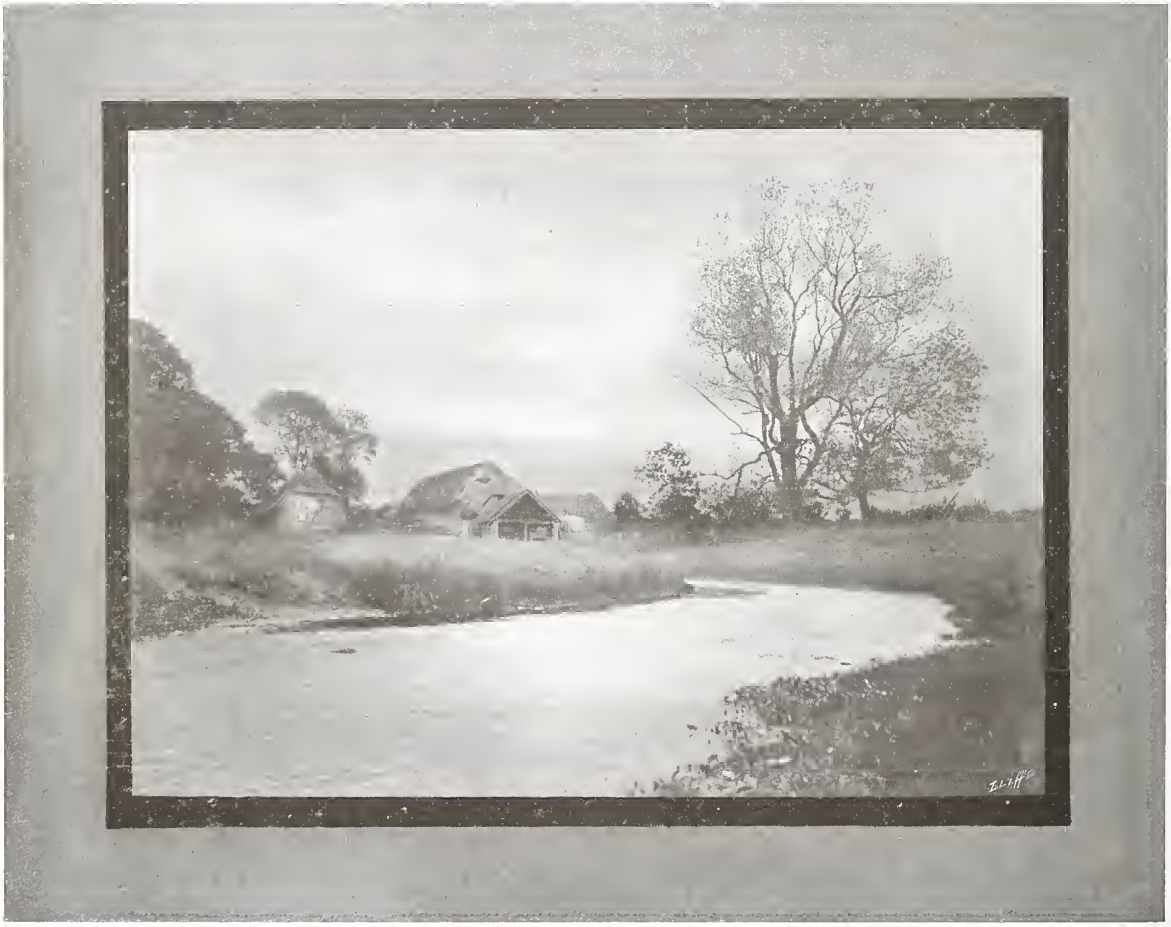


Fig. 5.

Some may say that all this is far too much trouble. To them I would only reply that I think greater satisfaction is to be derived from the finished result, even if only one subject is made or created from half a dozen negatives, than can be got by making prints from many dozens, none of which are entirely pleasing.

Not only am I sure those who try it will find it interesting work, but I feel certain there are many who have negatives which in their present state are useless, but which combined with suitable backgrounds or foregrounds, as the case may be, would make satisfactory pictures.



A Hampshire farm. *By B. C. Wickison.*

PHOTOGRAPHY, No. 769, Vol. XVI.

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NOTICE TO CORRESPONDENTS.

All letters, advertisements, etc., must reach the office on Friday morning to ensure being dealt with in the issue for the next week. In cases of great urgency, letters delivered up to the first post on Tuesday morning may be in time to receive attention, but this cannot be guaranteed.

Communications for the Editor should be addressed, The Editor of *Photography*, 3, St. Bride Street, London, E.C.

In all publishing matters, letters, orders, etc., should be addressed, ILIFFE & SONS LIMITED, 3, St. Bride Street, London, E.C.

Advertisement copy and orders, and these only, should be sent to the printing works. They should be addressed ILIFFE & SONS LIMITED, Coventry.

LEADER

The R.P.S. Loan Exhibition.

No one who has followed our criticisms and notes upon the Royal Photographic Society and its doings will be likely to accuse us of bias in favour of that somewhat sluggish and unenterprising body. We recognise its weak points, and should be glad to see them remedied, but this recognition need not blind us to the essentially personal and despicable methods of some of its adversaries.

From time to time the pages of a contemporary have been devoted to venomous attacks upon the society, which we have allowed to pass by in silence, as they seemed little calculated to injure anything or anybody but the reputation of those making them. The latest attempt of Mr. Horsley Hinton seems, however, to call for notice.

In a note on the subject in a recent issue, Mr. Hinton gives a list of the names of some of those who, he understands, will not be represented at that collection. The following is the list: Craig Annan, E. R. Ashton, Harold Baker, Walter Benington, David Blount, Tom Bright, Carine Cadby, Will. A. Cadby, Archibald Cochrane, Reginald Craigie, George Davison, F. H. Evans, J. M. C. Grove, Horsley Hinton, Charles Job, Alexander Keighley, and Charles Moss.

In one or two of the instances there are known to be grievances, real or imaginary, against the Society. Mr. Hinton himself has been rebuffed by it in a way that might well excuse some resentment on the part of one less sensitive to non-appreciation than himself. But it is impossible to believe that such a number of prominent workers, although it is certainly not one that includes "practically all the leaders in pictorial photography," have deliberately joined together to boycott the invitation collection, and it is very doubtful how far some of them will be content to follow their self-appointed leader.

We should like to ask one or two questions in this matter. How did Mr. Hinton get their names? Did he write and ask if they were going to send? If so, did he endeavour to induce them not to send?

The cream of the American school, we are told, will also, it is more than probable, decline. Then follows a list of names which from the context of the article itself appear to be used in a manner totally unauthorised: Yarnall Abbott, F. Holland Day, Mary Devens, W. B. Dyer, Frank Eugene, Gertrude Kasebier, Joseph T. Keiley, Eva Watson, Alfred Stieglitz, Edmund Stirling, Eduard Steichen, and Clarence White. We should like to know if Mr. Hinton has asked these ladies and gentlemen whether they have declined to lend or not? And if he has not done so, and if he has not received replies from them, what right does he possess to use their names as a lever to prevent other workers from exhibiting?

The article to which we refer is characterised throughout by a bitter hostility to the R.P.S., and by a determination to injure its exhibition by any means in his power. The pretext given—that a loan exhibition of photographs of the best workers would damage the Salon—is too thin to stand examination for a moment. We are far from wishing the Salon any evil, but desire to see it flourishing and progressive, and *Photography* by its attitude of free support and friendly criticism has at least done its share to make and keep it so.

Were the Salon as weak as Mr. Hinton tries to make out, it would be better to close it up once and for all. It is not so, and is only likely to become so if its more responsible supporters look idly by whilst it is used for the merest personal ends as a battering ram to attack the R.P.S. That, and that only, is likely to damage the Linked Ring and its exhibition, and those of its members who have its best interests at heart would do well to see that it is kept to its avowed objects.

A SUGGESTION WITH REFERENCE TO THIN NEGATIVES.

There is always a doubt in the minds of some photographers when they find on developing a much-prized "exposure" that a thin, weak negative has resulted. The plate is usually fixed and washed, and then arises the question: "Shall I intensify it, or print through tissue, or what?" Herr Renger-Patysch, in our contemporary *Apollo*, gives the answer, although, as he admits, the suggestion is not absolutely new. The method he employs in order to get a vigorous print from some such thin negative is to print from it without any fixing—that is, the plate is developed and washed, and then printed from whilst the unaffected silver bromide still remains in the film. It is well known, says the author, that good, plucky negatives are much reduced in the fixing bath, because the salts which have not been converted into metallic silver are soluble in hypo. To this we might add that much of the delicate detail in a negative before it is fixed consists of semi-reduced silver bromide, which, unfortunately, is soluble in the fixing bath, and consequently one gets the "clear glass" shadows so much disliked by good technical photographers. When sufficiently developed, we are recommended to wash the plate well, and then to treat it with formalin, after which we must dry it and coat it with collodion. The varnishing can be done with a home-made solution of celluloid, and this will protect the film from splashes and scratches. We have now a negative in which all the most delicate detail is retained, and from it we can make a transparency by contact printing. The transparency furnishes us with the means of making either contact negatives again or enlarged negatives.

* * *

THE TWO KINDS OF HALATION.

Halation was the subject of a long paper by M. Wallon to the Société Française de Photographie, read some time since, but only recently appearing in the society's bulletin. As the author observes, the question is at

A Portrait. *By Mrs. Barton*

An article on Mrs. Barton's child photographs appeared in our issue for July 25th.

present in a very confused state, as to the simple evil "halation" are put down all kinds of phenomena which are indiscriminately branded with the same name. Simple as halation may seem, it is, nevertheless, a very complex subject, for how often do we avoid it when it is most expected, and *vice versâ?* The gelatino-bromide film is a substance which is eminently fitted to diffuse the light which falls upon it, and is further sufficiently transparent to allow light to pass through it and be reflected back again only to cause mischief. There are, says M. Wallon, two chief kinds of halation, that caused by reflection from the back of the glass supporting the film and that due to diffusion or irradiation. It is fairly obvious that this latter kind cannot be checked by plate backing of any sort, since the "halo" is formed before the light has passed through the film at all. Fortunately, however, this species of the trouble is rarely met with, and, therefore, a good black or dark-brown backing is, as a rule, sufficient to prevent halation.

* * *

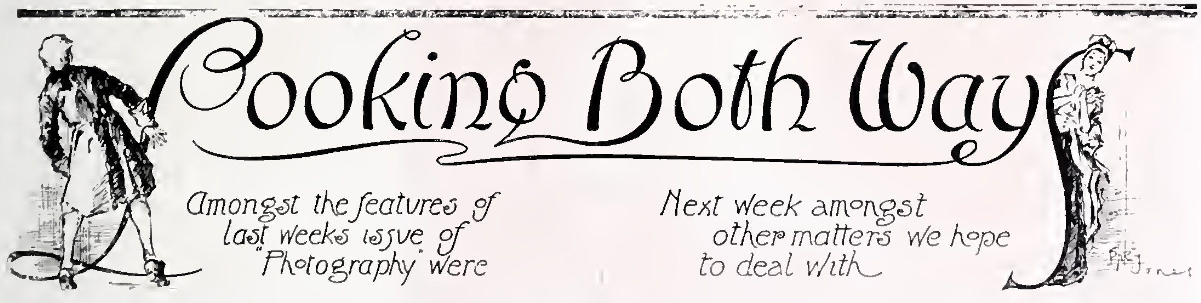
A THEORY OF REVERSAL.

At a recent meeting of the Société Française de Photographie, M. Davanne read a very interesting communication on reversal by over-exposure. The experiments of Bayard were recalled as being hardly to the point owing to the non-existence of a "latent image." It may be remembered that Bayard exposed a piece of paper impregnated with silver chloride, washed it when blackened, and covered it with a solution of potassium iodide, then again exposing it in a camera. The potassium iodide was then decomposed, the free iodine combining with the reduced silver and forming silver iodide. Hence a positive image was formed, the blackened silver remaining only where no light had fallen upon the paper. Later on Bayard and Poitevin showed that the reactions producing either a visible or a latent (invisible) image proceed on precisely similar lines. The substance of the author's theory, which may or may not be original, is as follows: The chemical or physical movement impressed by the light upon the sensitive silver compound is conveyed from the silver molecule to the organic molecule; this first reaction gives the "negative" image. By continuing the light action, the movement passes back from the organic to the silver molecule, causing an anulling of the first result, and consequently a reversal of the negative image. This, says M. Davanne, is a variation of Bayard's and Poitevin's ideas, the modified state of the organic molecule replacing the iodide reaction, and by a light action more and more prolonged, the cycle of these successive inversions proceeds on and on till finally inertia is reached. The theory is plausible, but why it should have been devised at all, passing by all experimental work tending to show that reversal is caused by saturation of the vehicle with bromine, is not apparent. A reference to this at least should have been made.

* * *

STAINING WHEN TONING WITH URANIUM.

In a recent communication to the Société Française de Photographie, M. Bunel gave certain reasons for the fog which, he says, accompanies intensifying or toning with uranium. Our readers have no doubt noticed that, when treating either plates or paper with uranium, the difficulty of obtaining pure whites, or, rather, of preventing the discoloration of the whites originally present, is very apparent. The reason for this, says M. Bunel, is that the precipitation of uranium ferrocyanide is always taking place, owing to the reduction of the ferricyanide by metallic silver in the film. The image, then, must be fogged originally if the red uranium fog makes its appearance, and avoidance of this would give the desired result. With all brands of plates, however, there is a slight trace of fog, not necessarily visible on development; and hence resort must be made to a subsequent clearing with ammonium sulphocyanide. This brings back the whites to their original purity. Possibly, M. Bunel is unaware of this simple remedy, as his efforts have been devoted to preventing this reduction of the uranium ferricyanide in the solution. Prevention being better than cure, we can only give the formula he has arrived at, which he states will work without any fog or discoloration of the whites. This is as follows: In four ounces of water thirty-eight grains of citric acid, fifteen of uranium nitrate, and twelve of potassium ferricyanide are dissolved. A little citric acid must also be added to the water in which the plates or papers are washed after toning or intensification.


Looking Both Ways
Amongst the features of last weeks issue of "Photography" were
Next week amongst other matters we hope to deal with

A photographer of still life. Some account of the work of Mr. John M. Whitehead, of Alva, N.B.

A new *facsimile* telegraph—the Telechirograph.

The relative exposure in studios and rooms.

"The Use and Abuse of the Substage Diaphragm," by Dr. Spitta.

Light apparatus for the field.

Hints on photographing for reproduction.

Studio Notes and Jottings.

"A Hand Camera and a Windmill." An illustrated article by S. L. Coulthurst.

Prof. Goodspeed's method of measuring shutter speeds by means of a tuning fork.

"Photographic Dishes," by W. S. Stanidford.

"Photographic Bookplates." Written and illustrated by James E. Masters.

"Side Street Photography." Written and illustrated by Percy Mail.

SNAP SHOTS

NEWS · NOTES FROM MANY SOURCES

A STUDIO AND DARK ROOM are placed at the disposal of photographers by Mr. H. Morley, of the Studio, Staithes, Yorkshire, at a small fee. Mr. Morley keeps a good stock of fresh plates, and places his local knowledge at the service of visitors

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THE TABLOIDS of chrome alum, citric acid, and sodium sulphite, and of plain alum, prepared by Messrs. Burroughs Wellcome and Co., of Snow Hill Buildings, London, E.C., will be welcomed by those who fear frilling in their negatives and melting of the gelatine in their prints during the summer season. The constituent parts of each tabloid are stated in the sheet of instructions that accompanies each bottle.

"Turn again Whittington" By Mrs. Barton.
An article on Mrs. Barton's child photographs appeared in our issue for July 25th.

THE EAST LIVERPOOL PHOTOGRAPHIC SOCIETY has arranged its winter programme as an elementary course of instruction. Members joining the society now will be eligible for the Members' Exhibition on December 5th.

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THE EMPLOYEES OF MR. R. R. BEARD had their annual outing to Windsor on the 25th ult. A guide was in waiting to conduct them to the various objects of interest in the Castle. After luncheon the party had a launch trip on the river, and later on a drive to Windsor Forest and Virginia Water.

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"FIRST STEPS IN PHOTOGRAPHY," by J. C. H. Wallsgrove, published by Messrs. Dawbarn and Ward, at sixpence, is one of the numerous brief text-books that have been brought out to assist the beginner in photography. It is clearly written, contains a number of illustrations, and the pages for memoranda will be found useful.

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THE CATALOGUE of photographic apparatus for 1903 issued by Messrs. Watson and Sons, of 313, High Holborn, London, W.C., is exceptionally well arranged. Messrs. Watson and Sons have so many specialities of their own not to be found in general lists that the photographer who desires to keep himself abreast with the times will do well to purchase a copy. The price of the book is sixpence.

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A COPY OF THE "PHOTOGRAPHERS' PEERLESS NOTEBOOK" has been sent to us by Messrs. G. Houghton and Sons, of 88-89, High Holborn. It contains a number of useful facts and formulæ, pages for memoranda and for exposure notes. In addition there is a list of photographic dealers and dark rooms throughout the country, together with an accident insurance policy for £1,000, altogether good value for the price, which remains as heretofore—one shilling.

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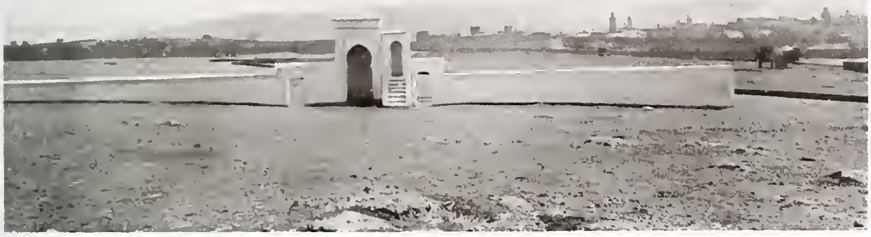
BROMIDE POSTCARDS. The *Photo-Revue* gives the following method of preparing bromide postcards. Take four ounces of distilled water, and add to it twenty grains of potassium iodide, one hundred and twenty of potassium bromide, and thirty of arrowroot. Apply this with a brush, when thickened, as evenly as possible. The cards being dry, they are sensitised on a five per cent. silver nitrate bath for a minute, in the dark room, and dried in the dark. About one second by gaslight is required for exposure, and rodinal or amidol (with plenty of bromide in it) should be used for development.

A PHOTOGRAPHER IN SUNSET LAND

Written & Illustrated by JOHN. H. AVERY.
Court Photographer to His Sherefian Majesty
Mulai Abdul Aziz, Sultan of Morocco.

IV.—MOORISH LIFE AND MANNERS.

LIFE in Morocco, although totally different from ours, possesses many attractions. The entire absence of bustle has no doubt led us to term the Moors and those who profess Islam generally as lazy. During the periods spent both in Fez or Morocco city I was brought into contact with many natives of all degrees of social position, and although I cannot say that as a class they are particularly hard workers, still they cannot by any means be referred to correctly as lazy. Moors have a rooted objection to standing still, and on the slightest provocation squat down on the ground immediately either to transact business or to pass the time of day with an acquaintance. No matter of what status the person may be or what position he may hold, the ground and the ground only is recognised as the proper place to conduct his business. At the Royal Courts all the affairs of state are settled in this manner, the only difference being in the placing of a large rug or carpet on the ground for the "seats of the mighty."



The Sultan's Praying Place outside Fez. It is from the steps that his Majesty publicly prays on feast days.

Be the Moor ever so bad, the word sluggard cannot be applied to him. He rises with the sun, and long before the day has far advanced the Royal Courts have opened and commenced the work of the day. All officials are expected to be present at the courts and in their respective places before the Sultan takes his seat; and as he is a very early riser, it behoves his subjects to be so also, even if they wished to lie abed longer. The officials ride to the courts on mules—certainly the most comfortable manner of travelling in that country. Each official is accompanied by runners, the number depending upon the status of the particular individual riding, varying from one or two for a "Cadi" or small magistrate to some forty or fifty for the Minister of War. These runners speed along uttering loud cries of "Balak" "Balak" to clear the foot passengers out of the "trek" or road, the dilatory ones being further assisted by a liberal application of the long stick of which each man is possessed.

It is a very interesting sight to see the court officials either leaving or arriving at the palace, grave and dignified Moors all cloaked in spotless white "Selhams" or "Jellabs," each one seated on a fat barrel-shaped mule adorned with native engraved silver harness, and preceded by either a slave or a soldier balancing on his head the small desk which contains all that is important for its owner. Lining the sideways are all sorts and conditions of beggars—the maimed, the blind, the lame, and those with disease of every shape and form, each vying with his neighbour in the loudness and apparent sincerity of his cry, "*Allâh sic' de bik,*" or "Give in

A story teller outside the gates of Fez.

the name of God." Scattered amongst the beggars pure and simple are numbers of both old and young "Shareefs" or saints. Each, by virtue of having descended from one of the myriads of saints, has accorded to him the privilege of keeping collecting boxes in certain mosques, and granting blessings by the roadside to all and sundry, in return for the more substantial blessing of coin of the realm. These gentry all flourish, as it is part of the Koranic law to give and to give freely, and no self-respecting Moor goes out without providing himself with a supply of "Fluess" or small copper coin to bestow as his mind directs.

Moors have a great love for feasts. No occasion is allowed to pass without celebrating it by a feast, be it the marriage of a friend or relative, the birth of a boy, or the victory of the Sultan's troops over a refractory tribe. Marriages, with the law allowing four wives and with divorce being so easy a matter, are always taking place; and the marriage being solemnised after sunset is particularly attractive. The bride, who is, of course, young, fat, and exceptionally pretty (according to the wise woman who arranged the match), leaves her father's home soon after sundown, carefully covered from head to foot, and proceeds to her future home, there to gaze for the first time on the face of her husband, and he on her. She is accompanied by all her male relatives, and on her arrival they proceed to feast in the accustomed fashion, that is, to eat and drink until they can hardly move, listening the whole time to the droning of the musicians or the wailing love songs of the singers. Towards the end of the feast the husband informs them of his perfect satisfaction and of his great joy.

Young Moorish brides if of good position have not exactly a rosy time after marriage. For nearly a twelvemonth they have to remain indoors to receive the calls of other married ladies, and are not able to return the visits.

Women, as is generally known, do not rank of very much importance, and although most carefully looked after and covered completely up when they go out, they play no part in the social life of Morocco. As children they are allowed to go about uncovered, but directly they are caught gazing into a looking-glass their mother deems it time to keep their face from the men, and from then until marriage no man sees their face unless by accident. Moorish women age very quickly. Towards thirty they lose weight, and grow perfectly ugly. Then the covering process becomes of less importance, and many of them go about without it.

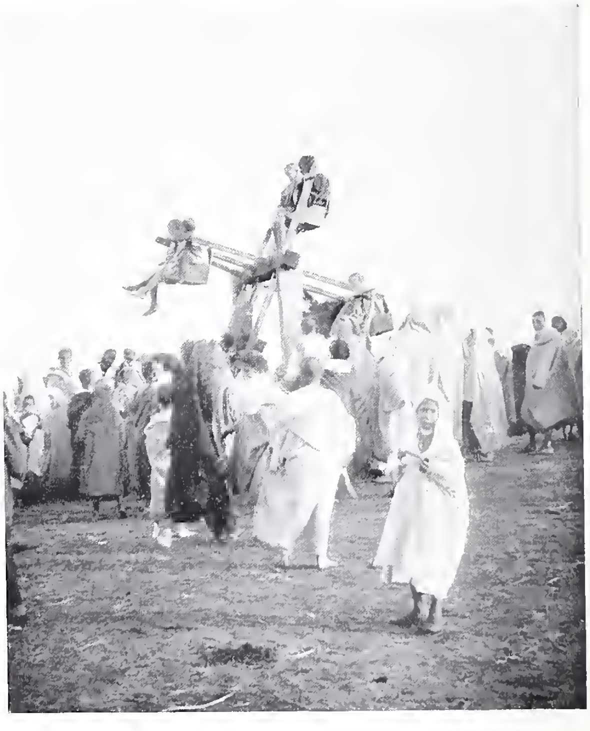
In Morocco—possibly more than in any other country—is the axiom about a woman being as old as she looks and a man as old as he feels true. Many a Moor who has grown to love his wives keeps them closely veiled, so that his friends may think he is still in the possession of all that is young and lovely, whereas the ladies may be far past middle age.

A Moor never refers in his conversation to his friends' wives, and the most he can do is to ask after the house, and the answer is always "*La bas amdallah*"—"No evil, thanks to God."

An old Moorish proverb runs somewhat as follows: "If you are embarking on an important commercial or other operation, and are undecided what to do, think over it for three days. If still not of a mind ask your dearest friend; failing him, ask two, or if necessary three. If you are still undecided, ask your favourite wife, and do diametrically the opposite to that which she advises, which course will be found correct. Thus saith Allah." So much for a Moor's idea of the gentler sex.

In one domestic virtue, however, the Moors are equal, if not superior, to ourselves—in their love for little children, particularly those of the male sex. The little ones are decked out in the finest and richest attire, and are treated with all the homage and respect compatible with their parents' position. They are carried about and shown with pride to all friends and relatives. If the parents are of good position the boy is given his own slave girls and practically his own household. The little boy in the photograph belonged to my cook, who is seen coaxing my dog to stand still. The little fellow took all his spare time and most of his spare cash, was dressed in the most expensive of gaudy muslins, and with his tribe lock most carefully plaited on the side of his head, would strut around the patio looking, and no doubt feeling, every inch a young lord.

Moorish boys possess very little in the way of games. The principal is known as "*lab' el korah*" or strike the ball. It is much akin to one played in Burmah, and consists of keeping the ball in the air by the aid of the feet only. Very skilful they are at it, sometimes striking the ball thirty or forty times before it escapes their nimble feet and falls to the ground. This and a game of knuckle-bones are nearly all they have. Now and again one meets the primitive form of roundabout depicted in the illustration, and its arrival causes as much excitement as does a travelling circus in a country village here. The boys who ride pay a small copper coin for the privilege, and sit in the little box-like seats, whilst the owner turns the whole thing round, causing the occupants to perform numberless somersaults. Judging by the amount of shouting and laughing, I should say the roundabout is greatly appreciated.



A Moorish roundabout for boys.

It is, however, the great feasts to which both old and young look forward for amusement; and the "Maloud," the greater and lesser sheep feasts, and that of Ramadan, with its preceding month of fasting, all cause the Moors to forget their trouble, and to don with their new clothes a smiling aspect. At these times the town is *en fête*, and every Moor does his level best to aid in the mirth to which the town is given up.

The great sheep feast is perhaps the most important, and the one that causes the greatest amount of commotion. From the first sign of daybreak, the people commence to leave the town gates, all making their way to the foot of the "Jubal-Nazala," or mountain, for it is to this spot that the Sultan will ride, and, in the midst of his people, and surrounded by all the noble and learned men, after his prayers, will cut the throats of the two sacred sheep. The troops, in the glory of bright vivid uniforms, are lined up, and at about 8 a.m., with a flourish of trumpets, the palace gates are flung open, and the Royal procession emerges, slowly making its way to the "nazala" or praying place.

A Moorish baby boy.

The Sultan, looking every inch the god his people declare he is, seated on a magnificent specimen of horseflesh, rides alone and unattended, except for two slaves who run alongside with white handkerchiefs which they use to flick the flies away. On his arrival from the top of the steps, and with face towards Mecca, the Sultan prays and reads certain passages from the Koran. Then, with his subjects' throats hurling forth cheer upon cheer, he slays the sheep. These are instantly deposited upon the backs of two fleet mules that are driven at top speed to the nearest mosque. If on arrival the sheep are found to be still alive, it signifies a good and prosperous harvest. Needless to say, the sheep are always alive.

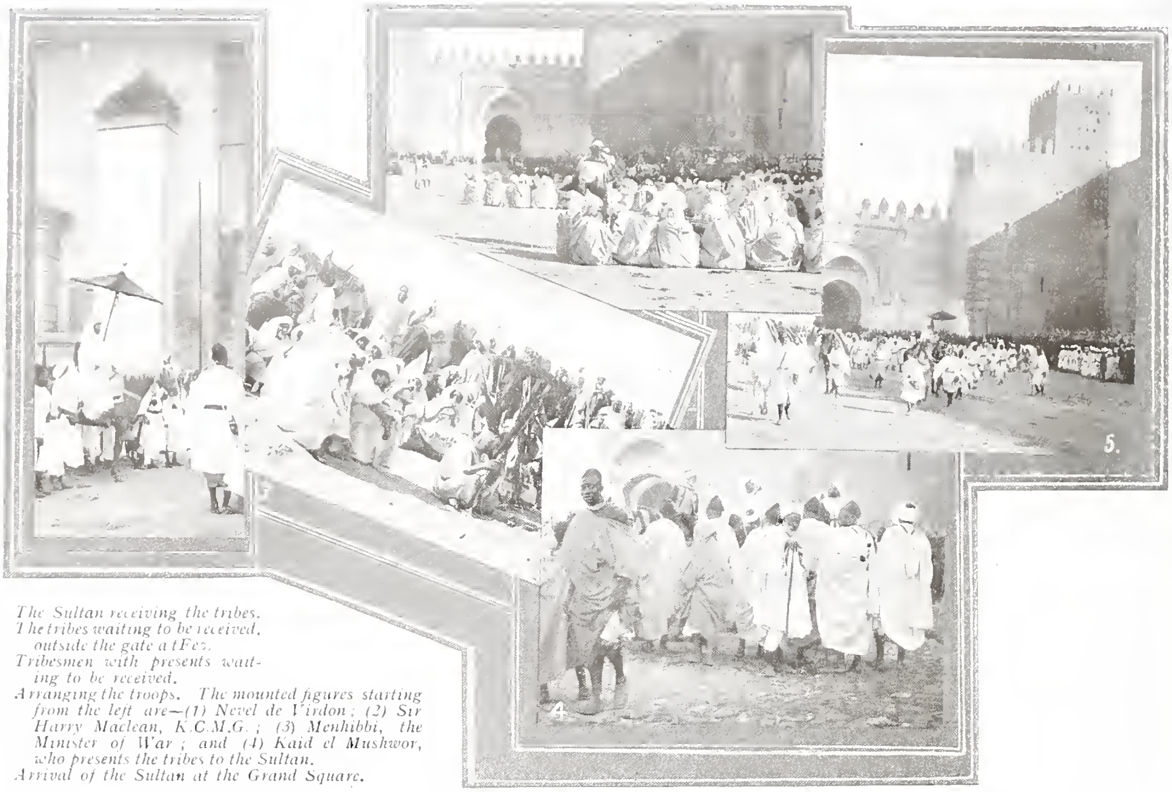
After this ceremony is over, the Sultan receives the various Kaids or governors from all parts of his dominions who have come to do him homage. It is these feasts that many of them dread so, since this is the time when they are seized and thrown into prison, should the tales of their wrongdoings have reached the Court. When the reception is over, the Sultan returns to the palace, and the remainder of the day is given over to king mirth. On this day every Moor is expected to kill at least one sheep, this killing being done in the streets, which present an appearance that may be imagined better than described.

The following six afternoons the Sultan rides in state to the grand square, and there receives deputations of tribesmen who have come with their Kaids to present to their lord such presents as they can afford, or as they think will be found acceptable. These consist of rugs, horses, sugar, tea, sweets, and occasionally money. At this ceremony, called "Hedera," or present-giving, the Sultan is the only person mounted. He enters the square preceded by a number of gaily caparisoned horses, each in the charge of a slave. Immediately in front of the Sultan are the Royal lance-bearers, whilst over his head is spread the Royal umbrella, the sign of oriental greatness. On the right hand, all the Court officials are drawn up in line to receive him, the tribesmen being in batches at the other end of the square, each on his tiptoes and all excitement, waiting his turn to proclaim his loyalty and faith. They are received in batches, and with bowed heads present to the master of the ceremonies their list of presents, and then sing out, "*Allah ibarak âmar Cide*"—God preserve the life of our lord—to which the Sultan replies, and then placing his hand to his breast dismisses them, only to make way for another batch, and so on until the whole lot have been received. Then, turning round, the Sultan gives the signal for return, and with bands playing, guns firing, flags flying, and with the air full of cries of "*Allah ibarak âmar Cide*," the Sultan returns to his palace for the day.

On the same afternoons that the "Hedera" is held, numbers of the mounted soldiers indulge in powder play in the various open spaces in New Fez. About twenty soldiers with loaded rifles at a given signal start galloping in a straight line at top speed across the space, standing in their stirrups the while and twirling their rifles about in a most astonishing manner. Then like one man they suddenly turn their bodies round, and, facing the tails of their horses, let off the rifles: and with a wild whoop pull the horses up on their haunches, stop, turn round, and make way for another batch. It is a very interesting thing to watch, although it is not particularly safe for Christians, as during the wild rushing, the Moors get almost frantic, and are liable to become dangerous. So, unless one is well known, it is better not to go.

Another dangerous period is after the feast of the "Maloud," when certain sects, somewhat similar to the dancing dervishes, come into the town, and, gathering the natives round them in a circle, stick knives, bodkins, and similar articles into their (own) bodies. They then so talk to the spectators that for the time being these seem to go perfectly mad. During that time an unbeliever, should he be seen, would fare ill. It would be his own fault, however, because the Consuls or Europeans living in Fez know about it, and every stranger is warned not to go into certain streets.

Apart from the above times, or during fighting periods, Moors are exceptionally nice people, quiet and well-behaved. In the cool of the evening outside the many gates they will gather and listen either to the learned men expounding the Koranic laws, or else to the story-teller, who, with tambourine in hand, will run through the whole gamut of the "Arabian Nights Entertainments," illustrating or accentuating each turn of the tale by a whirl or bang of his tambourine. I am told that these men



1. *The Sultan receiving the tribes.*
2. *The tribes waiting to be received, outside the gate at Fez.*
3. *Tribesmen with presents waiting to be received.*
4. *Arranging the troops. The mounted figures starting from the left are—(1) Nevel de Virdon; (2) Sir Harry Maclean, K.C.M.G.; (3) Menhibbi, the Minister of War; and (4) Kaid el Mushwor, who presents the tribes to the Sultan.*
5. *Arrival of the Sultan at the Grand Square.*

are undoubtedly clever, and although I could not follow their Arabic myself, still the expression of their faces and of their audience told me that the tales and the teller met with the appreciation desired. Woe betide the unlucky Christian who joins the throng of listeners. With a quip or joke the story-teller will so deride him that the whole audience will start laughing. Should he know sufficient Arabic to understand, he will be only too glad to make good his escape; while if he be ignorant of the language, he will stand with an idiotic bewildered look upon his countenance.

All true Mohammedans have certain fixed times for prayer, and although it is not necessary to pray every time, still the more prayers they can get through the more likely are they to go to the place set apart for the righteous.

From every mosque tower the prayer-callers exhort the faithful to pray some half dozen times during the day, and not content with this give an additional three calls during the night. As a rule, every Moor will pray three times during the twenty-four hours, each time carefully removing his shoes, and kneeling down with his face towards Mecca, and will go through the customary form of devotion. On our Friday, which is their Sunday, all are expected to go to the mosque, and before going it is imperative that they should first wash and put on clean clothes. No doubt it is owing to this law that the Moors always look clean and nice, as, personally, I have never found them eager to wash on their own account.

Washing clothes with the poorer class is quite an event, and one's servants are constantly begging days off to go down to the river to wash the only suit of clothes they possess. At the riverside, with a lump of Moorish soft soap, they will spend the day cheerfully washing one garment and drying the same in the sun before taking off another, and so on until they have successfully rigged themselves out in a complete clean outfit.

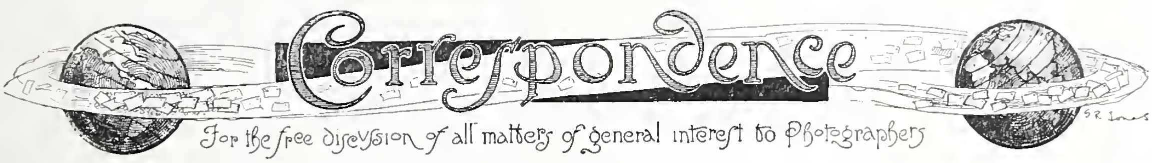
Moors are very fond of eating. They will stuff until they can hardly move. Their great time is after sunset, when the work of the day is over and they have said their prayers. A meal such as they indulge in should not be partaken of by an European, unless he has exceptionally fine digestive organs, or possesses the harmless necessary packet of Plasmon. It commences with rich soup, baked meats, etc., followed by stuffed chickens, pigeons, and various savoury dishes, winding up with rice, preserves of all kinds, and "cousca sou," the national dish of Morocco. This latter is like our coarse oatmeal, only much better, and is cooked with rancid butter, and served either with sugar or else with a dish of stewed meat and raisins. The liquid refreshment is either hot green tea flavoured with fresh green mint and made very sweet, or else sour buttermilk. Neither of these appealed to me as an ideal beverage.

The food is served in the dish in which it is cooked. This is placed upon a small table, eighteen inches high, the company sit round, and with the aid of their fingers only convey the food to their mouths, all eating out of the same dish. This to an European may sound far from nice; but having dined several times with Moors, I must admit that they are most particular, and are strict observers of etiquette. They always eat with the right hand only, and convey the food to their mouths in a quite refined manner.

During the repast the company (men only) are entertained by musicians or singers, who are as a rule Jews. After dinner the host will converse with his friends, or sometimes a jester will be engaged to amuse the diners. Towards the end of the evening, the host wishes his friends good-night, and retires to his own private apartments, leaving them to get home at their leisure.

To invite a man to eat with one is to confer the greatest honour possible, so that the traveller in Morocco who receives an invitation to eat, unless he wishes to cause offence, must be very careful how he refuses it, if he is unable to do otherwise.

Taking the Moor altogether, I have always found him a good and generous friend, easy to please, fond of a joke, and very slow to take offence. Many of the pleasantest hours of my life have been spent in his company, talking and listening to him perhaps with some difficulty owing to my Arabic being limited, so limited, in fact, that I wonder they ever understood what I was saying, or, rather, trying to say. If I might be allowed to pronounce judgment on the Moors as a body, I should say that they are good friends and very bad enemies.



Correspondence

For the free discussion of all matters of general interest to Photographers

The Editor is not responsible for the opinions of his correspondents.

PROTECTION FOR PHOTOGRAPHIC MANUFACTURES.

Sir,—Mr. John A. Randall adopts quite the superior person tone in his attempted reply to my letter, which, according to him, "could only have resulted from a superficial examination of the question." Trade, he tells us, may easily be destroyed, but it is not so easily created. Now that is exactly my point. Even Mr. Randall would hardly contend that the home manufacture, say, of cameras or chemicals would be destroyed rather than furthered, by "protection." Whatever protection may have done to the consumer, it has certainly never destroyed the industry that has been protected, but rather the reverse. The industries which have been destroyed have been those against which the protection has been evoked.

Let Mr. Randall explain to us how a British manufacturer of, say, for example cameras, is going to suffer from the imposition of a duty upon all cameras from abroad imported into this country. There are at present cameras on the market of British make throughout, which are as good as those imported from Germany and America. They are supplied at the same prices, and compete on equal terms with them, except that the American and German ones are made elsewhere.

Mr. Randall says that the British manufacturers "cannot compete with their rivals." The only reply to be made to that is that they can compete, and do. The governing factor in the sale of cameras, as of many other goods, is far from being the bare one of price, as so many people try to make out; but depends upon a number of other items individually small. Booming, pushing, advertising of all sorts go a long way, and if Mr. Randall means that the foreigners outdo us in this respect, I am with him. But in all others we equal them.

This is hardly the place to go into the question whether so much booming is to the advantage of the public or not. I am not at all sure that the money spent upon advertising generally is not pure waste, from the consumer's point of view, and that the Government that stepped in and protected that generally silly individual from his own weakness and folly, would not be doing him a very good turn. But the question is too great for a technical journal, and applies equally to other trades besides photography.

Now seeing that we are able to compete and do compete with the foreigners, the question is whether we should not get on just as well without their competition as with it. According to Mr. Randall, the imposition of a forty-five per cent. tariff would raise prices by that amount. Would it? Let us take the case of three cameras on the market, indistinguishable to the eye of the average purchaser, all selling at a guinea, one made in Germany the other two in Great Britain. What I want to know is why the imposition of a forty-five per cent. duty on the German camera should affect the cost or the selling price of the British ones in any way whatever? If we were forced to go to Germany, or elsewhere, for our cameras it might do so, but then we are not, and I fancy that the manufacturers in this country could as well do four or six times the business that they do at present as not.

Why should the price be raised, I ask? The mere removal of a competing element could not do it. The cameras would cost no more than they do at present; while competition amongst the British makers, of which there is enough and to spare, would serve to keep them at their present level. Yours, etc.,

A WOULD-BE MARTYR.

Sir,—I was glad to see that the letter of "A Would-be Martyr" was not to go unanswered, but that Mr. Randall in your last issue pricks the bubble which that most egregious martyr blew. The Martyr's letter was only too plainly a mere plea for protection, and his arguments, such as they were, as fallacious as most of those put forward by protectionists.

He seems to think that a substantial duty, forty-five per cent is his figure, upon all photographic materials coming into this country would benefit the photographic trade. Let him ask the dealers how much they would be likely to find their business increased if every article which now sells at eight shillings and fourpence were to be sold in the future at twelve shillings and a penny, and all others in proportion.

Let him compare the prices of photographic goods in this country with those of the same goods in the United States. Let him compare the healthiness of the trade in this country, typified by the abandonment of American methods you announced a fortnight ago, with the state of things existing in the U.S.A. as you, sir, described them in the interesting articles which appeared at the beginning of the year. Let him do these things, I say, and then tell us honestly, that he is still in favour of a fiscal policy that shall resemble that of the United States rather than that of Great Britain. Above all, let him sign his real name, that we may know whether he is genuinely and disinterestedly a protectionist, or only one for private and narrow ends of his own.

Yours, etc.,

G. P. BRADFORDE.

"LA REVUE DE PHOTOGRAPHIE" for July is quite up to its usual standard, and is worth the attention of the enthusiastic photographer. Among other interesting articles, it contains this month one on the employment of photography to study movements of the air, about which we hope to have something to say in a week or two. It is undoubtedly a great attraction for so well got up a journal to devote itself to science as well as art, for quite half the readers of photographic periodicals must be those who appreciate technical matter, especially when it is put before them in such an enticing manner as it is in our contemporary.

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WHEN MAKING GELATINE MOUNTANT some workers occasionally find that the gelatine forms itself into a compact mass on the addition of the alcohol and refuses to redissolve even on raising the temperature almost to boiling point. This, says *Camera Craft*, is due to the use of too strong a sample of gelatine. The ordinary cooking gelatine of the grocer (Cox's) is what is wanted, and another point is that the alcohol must be added very gradually with constant stirring, or the same trouble may result.

TRAPS & PITFALLS *for beginners in* PHOTOGRAPHY.

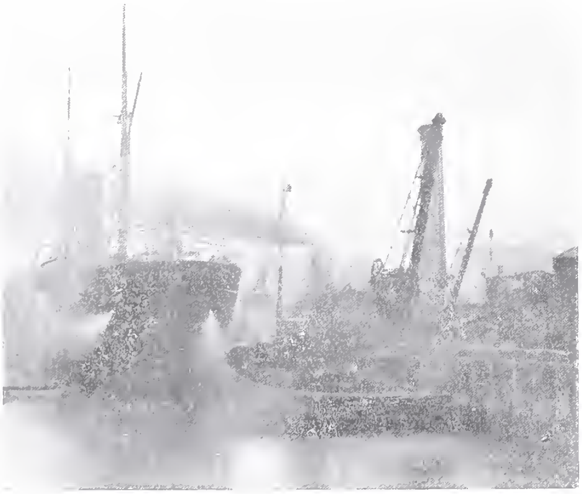
Notes on Exposure Meters.

I use a Wynne meter, and soon found out its usefulness. But I would caution the reader that if he is to experience the full benefit of it he must test the light under all conditions. A change in position from out on the open sands to the shadow of a pier may lead to disaster. One day at 2 p.m. in December in an open situation along a quayside I calculated an exposure which resulted in a good negative. About half an hour later, with the same stop and another plate of the same speed, I proceeded at a lower level, under the shadow of a pile pier, to photograph a damaged trawler of a singularly non-actinic colour, being a dirty rust brown, and foolishly thought that with slight alteration, as the light did not seem to have changed, the previous calculation for exposure would hold good. The negative proved otherwise. It revealed a mere outline of the vessel with plenty of clear glass.

It is false economy to spare the sensitive paper of the meter and to waste a plate.

Smoke v. Smear.

On one occasion I just missed what might otherwise have been a good picture, owing to giving a time exposure of fifteen seconds. A steamer was moored in the harbour, and the funnel of a tug close by taking in coal was throwing forth large volumes of black smoke, partly veiling its more bulky neighbour. The illustration shows how with the time exposure all the fine cumulus effect of the smoke was lost, the smoke being reduced to a smear; the tug also moved.



Where the diffusion of the smoke proceeds under tranquil atmospheric conditions an exposure of from one-tenth to one-fifth of a second will be needed, according to the stillness of the air at the time of releasing the shutter; but where a breeze accelerates its velocity by catching it shortly after it leaves the funnel, one-twenty-fifth to one-tenth of a second will be needful to preserve the cumulus effect.

Apparatus.

For the serious worker I would suggest a 5in. by 4in., folding baseboard, hand-and-stand camera, with a swing back, and I should prefer the lens to be about 7in. focus. The longer the focus the better the covering power. With large apertures when the rising and falling front are employed, there is less falling off in the definition at the margins of the plate. This form is very portable, but the beginner should at first use it purely in its capacity as a stand camera. A half-plate cámera with a baseboard cut out to allow the shutter to fold up without being detached is an excellent type.

As regards the lens, assuming that only a moderate outlay can be made, an 8in. focus rapid symmetrical working at f/8 should be chosen. This with a short focus, wide-angle planiscope lens would offer the following advantages: The 8in. lens would be useful as a long focus lens for either quarter-plate or 5in. by 4in., and it would be what is generally recommended for ordinary subjects with a half-plate. The back lens of the rapid symmetrical would have about 16in. focus. With these foci and a single spectacle lens of 12in. focus there would be a battery which would be ample for all ordinary work.

The rapid symmetrical is a lens in which the front and back lenses are the same in form and power, with the diaphragm midway between them, and possess equal optical properties. Rectilinear means giving a straight or right line. When this 9in. focus f/8 lens mount is used for any other focal length of lens than one of 9in. focus the stops will have altered values, becoming greater the shorter the focus, and *vice versâ*. The meaning of f/8 and of the terms used to describe the other stops is that the diameter of the stop in the case of f/8 is one-eighth of the focal length of the lens. To find the focal value of a stop an object 300 yards away is focussed sharply. Then the exact distance from the focussing screen to (1) the back of a single lens or (2) for a doublet to the stop in the centre of the tube is measured. The result equals the F number.

The half-plate stand camera is really a wonderful plastic all-round possession as adapters, for either quarter-plate or 5in. by 4in. can be obtained for the dark slides. Thus we have one instrument capable of taking three different sizes of plates—a consideration when our purses, like barometers, are liable to fluctuation. It can also be used as a hand camera if a view finder, level, and focussing scale are added. Its long extension, with a behind-lens roller blind shutter and the lens mount, often enables distant objects to fill an appreciable space on the screen when a long focus lens is used. Lastly, it can be utilised most successfully as a means of enlarging by daylight, and the rapid symmetrical lens answers admirably as an enlarging objective.

A light but rigid tripod would also be required; and a water-proof focussing cloth, which completely covers the camera, shutter, and lens, is better than a twill or velveteen covering, especially during a heavy shower or damp, misty weather. We are repeatedly reminded to take care of the shadows and let the high lights take care of themselves, so we may apply the adage to the focussing cloth, and see that we protect the camera and its accessories, and let the tripod, for the time, look out for itself.

Time Exposures with Moving Objects.

Even those who have but an elementary knowledge of photography will probably be aware that it is desirable generally to use as large a diaphragm as the end in view or the subject will allow, thereby gaining distance, atmosphere, softness, and pleasing aerial perspective. It may be well to note what some of the limits are. For very high speed shutter work, to get sharp focus in one plane with diffusion in the others, and during dull weather, f/5.6 may be used. This aperture is perhaps more valuable as a reserve power than as a necessity for general requirements. Increase in the size of the stop means loss of "depth of focus" and *vice versa*. By "depth of focus" is meant the power of the lens to render both near and distant objects sharply. If the aim is to emphasise one part of the picture and to subordinate the rest, then we may focus with the largest stop on the principal object in the scene.

Such stops as f/16 or f/22 may be used for subjects in which both the foreground and the distance are to be reasonably sharp, and f/32 when microscopical detail is wanted, as in the case of architecture.

The smaller stops, f/44 and f/64, may be used with good results in the case of subjects in which there is a considerable amount of moving traffic. By stopping the lens down and giving a long enough exposure, there will be no image of the passers by on the negative. Another method where there is much traffic and people are occasionally standing about is to divide the exposure into three or four portions. Thus, supposing ten seconds to be the exposure indicated by the meter as desirable, we may expose for two seconds, then recap the lens until a general alteration in the thoroughfare has taken place, give another two seconds, and so on. EXPERIENTIA DOCET.

A NEW FORMULA FOR DEVELOPING PRINTING-OUT PAPER.

IT is well known, says Mr. Castor, in the current issue of *The Camera*, that slightly-printed pictures on printing-out papers may be developed to full strength by the use of gallic acid. A saturated solution of the acid with cold water may be made, and prints exposed until the detail in the high lights is just visible can be fully developed in two minutes. After fixing they are green in tone, with almost black shadows. Negatives, to produce the best results, should be vigorous, as prints made from flat negatives cannot be left in the developer long enough to acquire the green tone. Prints left in the developer one minute only are, upon fixing, a fine brown tone. For hard negatives it is necessary to expose longer, say to half-print them, to get this tone.

As gallic acid in a saturated solution deteriorates in a short time, it may be used with sodium acetate and fish glue. Sodium acetate tends to accelerate development, and fish glue retards the decomposition for a considerable length of time. I have some of this developer that was prepared last summer, and it works as clear and well as it did the day I made it. I recommend a bath of

Concentrated gallic acid solution ...	10 ounces
Sodium acetate	½ ounce
Fish glue	1½ ounces
Water	10 ounces

The more sodium acetate used the softer the picture will be.

Harsh negatives should be printed rather more than those of more even density. The print is placed in the developer without previous washing; it will turn reddish-brown, and then the shadows will become brownish-black. When this colour is reached it must be dipped quickly in water and the face rubbed with a tuft of wet cotton to remove the developer, and immediately placed in a fixing bath of the usual strength for printing-out papers and finished in the usual way. If the print is taken out of the developer before the shadows begin to blacken, the tone, upon drying, will be a brown.

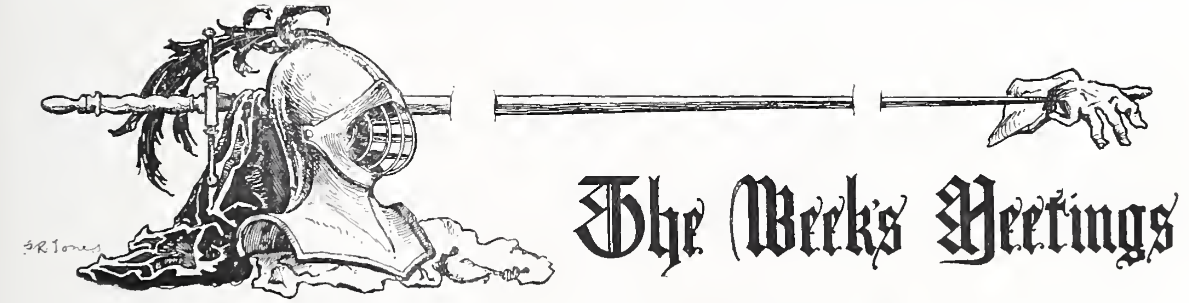
MEZZOTINT CARBON TISSUES AND SINGLE TRANSFER PAPERS.

THE Mezzotint carbon tissues and transfer papers to match just introduced by the Autotype Co., of 74, New Oxford St., claim the attention of all who desire prints that are truly matt. This is a result for which carbon workers have long been trying, and although obtainable in the double transfer by means with which all carbon printers are familiar has proved elusive in the ordinary methods of the single transfer process.

The Autotype Co., however, have effectually overcome the inherent difficulties, and in the prints which they have submitted to us the natural surface of the paper appears free from either what has been called the eggshell surface, due to a matt temporary support, or the slightest suspicion of gloss in the shadows. The absolute success achieved is best shown in prints upon smooth paper, in which if at all gloss might be expected.

With the exception that an allowance must be made for the additional sensitiveness of these new tissues there is nothing to learn that the carbon worker is not already acquainted with, and, needless to say, the tissue is in all respects of the same high quality to which the Autotype Co. has so long accustomed us. The new surface entirely overcomes the objection that has been raised in times past to carbon as a medium for picture-making.

The tissue is issued in six tints—standard brown, engraving black, sepia, warm sepia, cool brown, and red chalk—at 6s. 6d., in bands of thirty square feet, and in half-bands, quarter-bands, and cut sizes. The single transfer paper is issued in four grades—white extra matt, toned crayon, white, and rough matt—whilst the double transfer is made in white crayon and toned crayon. All the transfer papers are priced at 3s. 9d. per band.



The Week's Meetings

THURSDAY, AUGUST 6TH

Hull. General Meeting.

SATURDAY, AUGUST 8TH.

EXCURSIONS.

Boro. Poly. Crohamhurst.
Glasgow P.A. Cadzow Forest.
Ilford. London.
Bristol. Brockley Combe.
Woolwich. Bexley and Crayford.
Glasgow and West. Luss and the Islands, Loch Lomond.
Bowes Park St. Albans.
Glasgow Southern. Luss

MONDAY, AUGUST 10TH.

Bradford. Esholt Excursion.
Dewsbury. Meeting.

TUESDAY, AUGUST 11TH.

Nelson. Prints. Roughlee and Barley; also Holiday Prints.
Batley. Bingley. Excursion.

TUESDAY, AUGUST 11TH (Continued)

Hackney. Excursion Prints due.

WEDNESDAY, AUGUST 12TH.

North Middlesex. Enlarged Negatives C. Beadle.
Everton. Make Haste Slowly. G. H. Usher.

SATURDAY, AUGUST 15TH.

EXCURSIONS.

North Middlesex. Middle Temple.
Hackney. Dartford.
Hull. Bishop Burton.
Keighley Stanbury.
Nelson. Hardcastle
Halifax. Wade Wood.
Dewsbury. Pool for Washburn Valley.
Glasgow Corporation. Bute.
Catford and Forest Hill. Addington and Wickham Woods.
West London. Dorking
Woolwich. Eltham.
Barrow Nat. Millon Castle and Church.

Societies will have their meetings announced here if the syllabus is sent to us at the beginning of the Session, or from time to time

"The time has come, the Walrus said, to talk of many things."

QUITE recently there was a considerable flutter in the dovecotes of a photographic society just out of London. The inhabitants of the town were proud of their picturesque streets and the beautiful surroundings of the place. But lo, without any warning, there suddenly sprang up along the best roads a hideous crop of telephone poles, almost as high and quite as ugly as Haman's gallows. These were judiciously planted so as most effectively to spoil the best views, while at the same time blocking the entrance to as many houses as possible.

* * *

At a council meeting of the said photographic society the matter was considered, and there were remarks made that did not appear in the minutes. Then followed some suggestions as to what should be done The chief were as follow:

No 1. That the District Council who had consented to the erection of the poles should be appealed to on the subject. (Dismissed with derision.)

No. 2. That the poles should be partially sawn through by members of the society and others interested in a righteous cause. (Reluctantly abandoned on account of difficulties.)

No. 3. That holes should be bored in the posts in the dead of night and dynamite cartridges inserted, to be exploded by throwing stones thereat from a safe distance. (Gloated over, but ultimately rejected.)

No. 4. That the white ant or some equally destructive insect should be introduced into the timber. (Postponed for further information as to practicability and probable cost of larvæ.)

No. 5. That the members of the District Council should be hanged, one to each pole, as far as the supply lasted. Similar action to be followed with the directors of the company erecting the poles. (Vociferously accepted.)

* * *

Now this last suggestion found its way into the local paper. With results.

* * *

During the half-light of a summer night police constable No. ·9 was pursuing his lonely rounds. (He was numbered as "decimal nine recurring," because he was the owner of a regularly recurring continuous thirst, and as ·9 is the same as 1, so his thirst was in reality one long thirst.) He paused for a moment by a telephone pole, peered at the top thereof, and then, blowing one long quavering note all the time on his whistle, he fled wildly along the village street.

* * *

At last a window was thrown up, and a head appeared. "What's up?" The repeating decimal stopped blowing just long enough to remark, "There's a bloomin' corpse a-hangin' on one of the posties!" The head disappeared, and the owner emerged from his house. Another policeman arrived—a mere vulgar fraction of the force.

* * *

They got a ladder, and the scared civilian was incited to climb the pole and cut down the dangling body, which fell with a thud on some bags of sawdust thoughtfully placed to break its fall, or its neck if that should be still intact. The body had a wooden leg, which led to speculation as to how it had climbed the tall pole to hang itself. It had also a pasteboard face and straw stuffings.

* * *

After a short whispered consultation they placed the body on the ladder and carried it to the front of a neighbouring inn. A handful of shingle brought the host to the window, and the decimal asked in a tragic whisper for a bottle of the best brandy, as he pointed to the recumbent figure whose arms were being scientifically manipulated by the vulgar fraction in his attempts to restore respiration.

* * *

The brandy had no effect on the body, but it inspired the quartette surrounding it with a new idea. In the morning light a waggon with a towering load of hay came creeping along the road. The driver was fast asleep on the topmost truss. The horse was gently pulled up, and the body placed under the wheel. A beetroot-coloured face, with a shaggy fringe of whisker, appeared over the edge of the hay, and took in with one goggled-eyed glance the fact that the cart had run over a wooden-legged man. Then the face vanished, and there was a resounding smack of a whip that sent the old cart-horse thundering Londonwards like a cavalry charger.

* * *

Ten minutes afterwards mine host and the civilian had smilingly retired again, the body had been safely stowed away, and the officers of the law had resumed their beats.

* * *

The photographic society holds another meeting shortly.

* * *

It behoves us always to beware how we deal with contentious matters, lest by solving them we remove one of the joys of life. If this were not so it seems easy to settle in a moment some of the most furiously argued points. For example, a photographic writer maintains that considerable incomes can be made from photography, and instantly another writer obliges him with the lie direct.

* * *

Yet surely this is a matter for mere quiet figuring.

* * *

I receive two guineas for a half-plate print for reproduction. Good. (Jolly good.) I can easily turn out fifty prints per day. That means one hundred guineas per day. Working only 300 days in the year my income stands at 30,000 guineas per annum, with sixty-five and sometimes sixty-six days free. My pen is a bit crossnibbed, but I hope these figures are correct, and, if so, how can there possibly be any argument about the matter.

* * *

Of course, it may be remarked that my income is *not* 30,000 guineas per annum. Well, I know that. (Great Scott, how well I know it!) But why isn't it? Simply because I don't make fifty prints a day for 300 days and sell them at two guineas each.

* * *

Again, there have been endless heated discussions on the desirability or otherwise of photographing what artists describe as "the altogether." It would appear to be inevitable that occasionally at any rate people must be taken *in puris naturalibus* because it has been laid down that you must not wear black as it is too gloomy, nor white as it is too glaring, nor (for various reasons) must you don yellow, blue, green, or red. Therefore, if you have nothing to be photographed in but black, white, yellow, blue, green, or red it necessarily follows that the photographer secures a study of the nude, and there you are. There is nothing to argue about. THE WALRUS.

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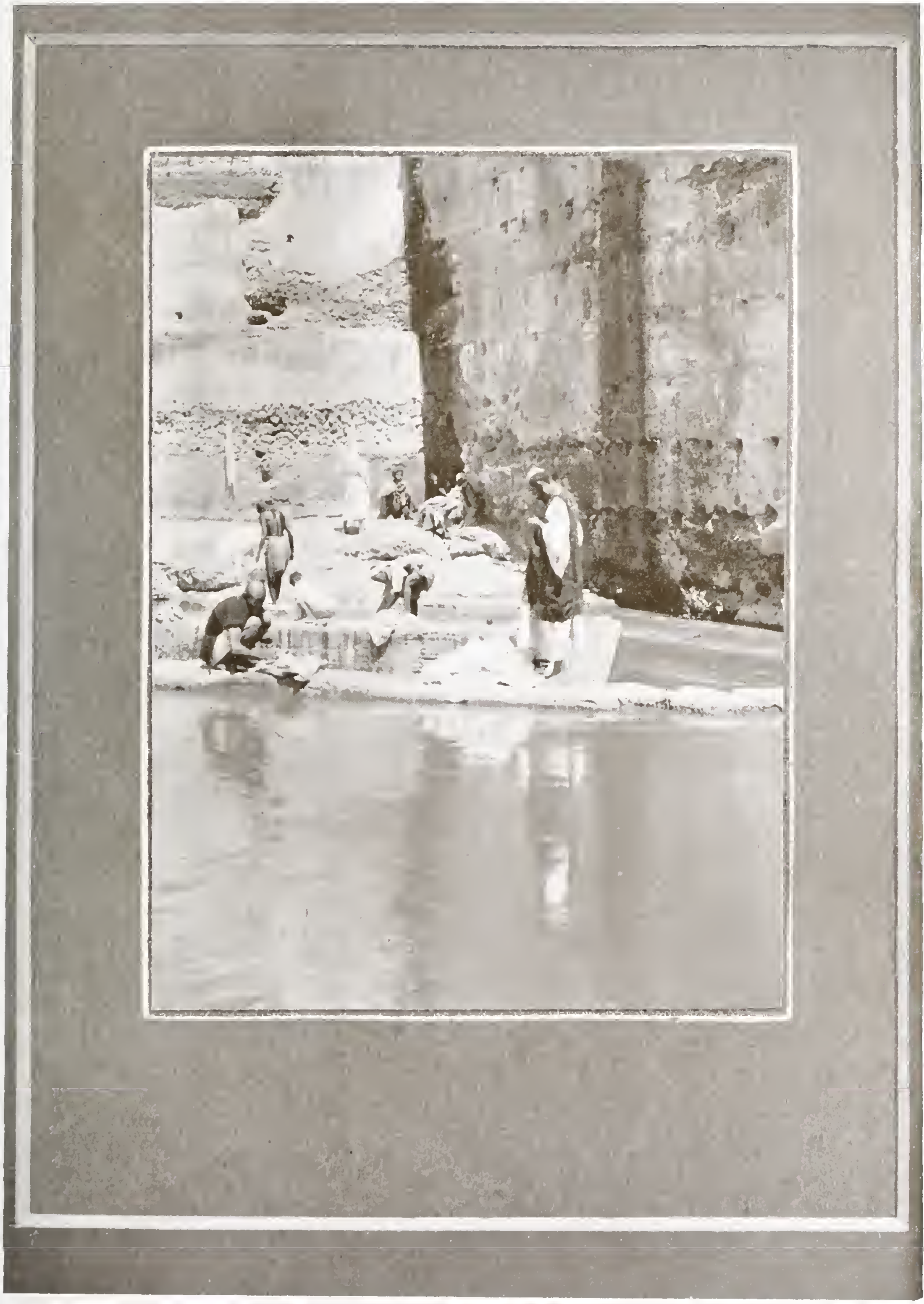


WASHING CLOTHES IN FEZ.

BY JOHN H. AVERY.

SIDE STREET PHOTOGRAPHY

BY W. PERCY MAIL

Special to "Photography."

In this article, our contributor, Mr. W. Percy Mail, points out the advantages which the photographer will be likely to derive from looking up the side streets in the towns which he visits. The illustrations by the author should go a long way to enforce his contention. They will be found upon pages 134, 135, 136, 138, and 151, and were all taken in the one little Cumbrian market town of Alston.—Ed.

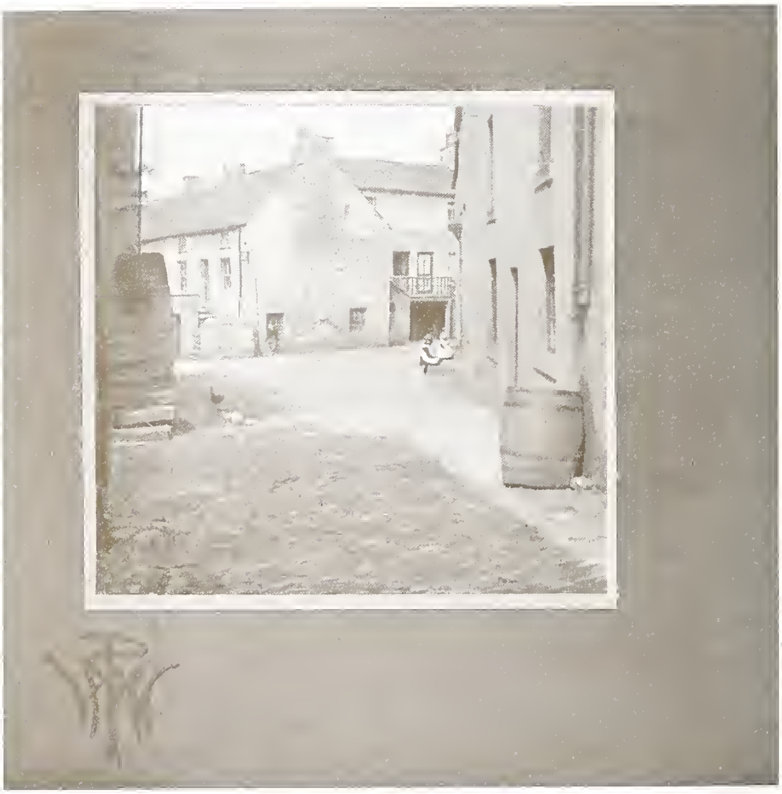
THERE comes into the life of every amateur photographer a time of listlessness, of apathy, of boredom, for which it is extremely difficult to account. Nothing seems to satisfy us. We have done so much and yet seem to have so very little that is valuable to show for it. We have tried the usual routine, and have spent time and money, developers and brains, upon plates which, after all, seem just the same kind of thing that our friends turn out. Not that we object to do occasionally what other folk have done; but there seems to be ingrained in the system of every Englishman a healthy desire for originality which must somehow or other be satisfied.

When we review our past photographic career, and look over the collections of prints which find their way into our albums, we feel we are tired of the conventional rustic bridge, the pretty, yet often featureless, river and stream studies; while landscape and seascape, hill and dale, have all received their due meed of our attention. Why then are we dissatisfied? Others before us have gone through the same experience; how have they got out of it? Some, alas! have left their old friend the camera severely on the shelf, to lie there and depreciate in value as the months go by. Others have turned their thoughts to technical work, where there is ever open a field of inexhaustible magnitude. Others, again, have taken up some special branch of their hobby as their several inclinations have led them.

It was with such feelings as these that I wandered round the principal streets of Alston in Cumberland, a town which proudly boasts in the guide book that it is "the highest market town in England." The surrounding district abounded with very fine scenery. There were waterfalls galore; while hill, wood, and moor were fully represented. Indeed, I took some of these, but only to find to my disgust that someone had been there before, as they were all represented in this wonderful guide book which I carried with me. I felt that there was good in this book; from the point of view of a tripper, or scorching cyclist, it was no doubt delightfully illustrated, but I had no wish to make a little guide book of my own. I wanted something new, fresh, *outré*, and those I had already taken now lacked interest.

Disconsolate, I wandered over the rough cobble stones until, suddenly espying a narrow opening, my natural curiosity prompted me to see what was on the other side.

Now Columbus would never have discovered America if he had not had this curious turn of mind, and I—though I have no desire to be confused with the eminent explorer—would probably never have discovered the interesting hobby of "side-street photography" had I stuck to the beaten track. What was my surprise on passing through this little "close" to find myself in front of one of the most quaint and Dickensian little shops I have so far come across. One's thoughts instantly flashed back to the pathetic face of "Little Nell," or the silvery hair of her grandfather.



Here were curious tumble-down houses, wobbly little shops, and cobble stoned alleys, which I knew were *not* in the guide book, and I was very soon at work recording what I felt had not been much troubled by other photographers. The best plate of the whole lot, of course, I spoilt. It is always the best fish which gets away, but I shall visit the place again this year, when I feel sure my "fish" will be in the same spot. It was a delightful "pile" of houses (for Alston is built on a hill) with overhanging roofs, wooden railings, and old fashioned winding steps, which presented a picture quite out of the common. It was not at all a difficult matter to imagine one's self transported to one of those villages in Normandy which we hear such a lot about or see illustrated in the photographic press, but it was better in one respect: that it did not require either the *time* or *money* to get there, while the atmosphere at 900 feet above sea level was not to be criticised.

My apathy was gone!! Here was a town within fairly easy distance of even the South of England, on the North-Eastern Railway, with special travelling facilities, and good accommodation at cheap rates, and besides other pictorial attractions, these secrets of the side streets waiting to be unearthed.

I do not claim for my illustrations any high artistic merit, but if printed in either red chalk carbon, or sepia carbon, I can assure my readers that they make pictures which possess for me that charm which arouses interest in the *picture itself* quite apart from the place it represents. It is not necessary to stick to Alston. Doubtless plenty of other towns have their own peculiar attractions in the side streets which, up till now, have been left comparatively alone, and are only waiting to be hunted out.

Let us not neglect side streets.

TONING P.O.P. VERY RAPIDLY AND UNIFORMLY. By Percy M. Reese.

IN spite of the perfection to which developing papers have been brought in the last few years, there are very, very many workers who prefer and almost exclusively use P.O.P. Bromide and gaslight papers are widely advertised as "the papers for busy people," but my experience has taught me not to undertake to make even a few prints upon them unless I can see at least an hour free from interruption ahead of me; while, on the other hand, with P.O.P. I can see in five minutes of early sunlight every detail that is in the darkest shadows of my negatives. Then I seem able to get more detail in the shadows on P.O.P. than is possible with any other paper, and if care is used in the selection of the surface upon which to squeegee the prints, the finish can be adjusted to any effect that may be desired.

For years the toning was a serious drawback, particularly the long preliminary washing, which, if not carefully and slowly done, was sure to bring about spots and stains that spoiled many of my best prints. As a welcome relief from this I used for three years the "simple combined bath" so long advocated by Dr. Nicol with quite satisfactory results as to permanence, but I was never quite certain I should be able to get just the tone I wanted.

About a year ago a formula came to me which, after experimenting and modifications, has proved to be so thoroughly satisfactory in every respect that I will now lay it before my readers with confidence in its beauty, convenience, economy, and permanence. I can assure all who will faithfully try it a beautiful, rich, and always uniform tone on P.O.P. within thirty seconds after the print leaves the printing frame, and, withal, with absolute permanency. I have exposed prints to direct sunlight for three months, one half covered by black paper, and cannot now see the line between the covered and the uncovered parts.

For the professional it may be found expensive in that it uses a little more gold than the old baths, but that need hardly be considered, since it is such a small percentage of the expense. As a matter of fact, it has cost me in the year I have used it exclusively considerably less than the old bath did, because, even with the combined bath, it was impossible to avoid waste, while with this one need not waste one grain of gold in ten years. One pours each time from his four bottles of perfectly stable solutions just exactly sufficient, and no more, to tone four, ten, or fifty prints, or as many as he has ready, and uses it to the last drop. There is no room for waste.

Four chemicals only are needed. They are cheap, and to be had from any dealer, and in small quantities.

A village close. *By W. Percy Mail.*

TONING P.O.P. RAPIDLY AND UNIFORMLY.

They should be carefully dissolved in clean bottles and mixed in the proportion and order as follows:

A ten per cent. solution of ammonium sulphocyanide. Mark this A.

Dissolve fifteen grains of gold chloride in seven and a half ounces of water. Mark this B.

A ten per cent. solution of sodium phosphate. Mark this C.

A saturated solution of borax. Mark this D.

To use they are taken and mixed in the following order:

A	1 dram.
Water	8 drams.
B	4 drams.
C	1 dram.
D	2 drams.

There need be no preliminary washing. Printing is carried just a shade deeper than we wish the mounted print to be, and the prints can be put direct from the frames (or they may be kept a week or two in a dark place) into the mixed bath. They will turn at first red, but in less than thirty seconds they will change to a beautiful dark purple, almost black in the shadows, and will not change again, even if left an hour or more in the bath. As soon as they reach an uniform colour they may be placed at once in a fixing bath—one ounce of hypo to ten ounces of water—or they may be put in clean water until all are toned and may then be fixed. They should be fixed for twenty minutes, care being taken not to let them lie together too closely for the hypo to get in. I have not found it necessary to keep them moving. Lastly, they are washed for an hour in running water or in ten changes in about the same time. They may be hung up to dry or squeegeed on ferrotype or glass or ground-glass. If the parts are drams, as given above, the aggregate two ounces will just tone ten five by four prints. The last few will take a little longer to reach the full tone, and if more are put in, or if the chemicals are not pure, they will have a reddish tone, showing that the bath is weak or exhausted, and that a fresh lot must be made up. If one has only, say, four five by four or two seven by five prints to tone, fifteen minims of sulphocyanide, one hundred and twenty minims of water, sixty minims of gold, etc., may be taken, and the four drams will be just enough with no waste.

Instead of immersing the prints we can put them one at a time upon a sheet of glass—an old negative will do—and swab them over lengthwise and crosswise with a wad of cotton or a brush, holding the corner of the plate over the measure so that the drainings can be used over and over again until the uniform tone is reached. It is a peculiarity of this bath that no matter how streaky the prints look at first, if one keeps brushing them over they will become entirely uniform in tone. Its characteristic seems to be that the solution is capable of toning the prints just so far and no farther.

A little table can easily be made on the basis of the above two examples which will enable one to pour off each time just enough of the various solutions, and no more, as is required to tone the number of prints that are ready. The four original solutions will keep indefinitely, but it is better to keep them in dark bottles or in a box away from the light, and well corked. I have kept them for months without deterioration, but after mixing the four the bath must be used within an hour. It is worse than useless to keep it until another day.

I might remind the beginner that the easiest way to make a ten per cent. solution is first to measure ten ounces of water, pour that into a clean bottle, and paste on a label, so that the top edge just marks the height of the ten ounces. An ounce of the substance is then put into the bottle and the water poured in up to the height marked by the label.—*The Camera.*

Off the market place (see p. 134). *By W. Percy Mail.*

THE SEMI-CENTENNIAL ANNIVERSARY of the association of Mr. J. J. Bausch and Mr. Henry Lomb in the celebrated optical house bearing their names, was noted by an invitation to the friends of the firm to spend the evening of the 24th ult. at the Lyceum Theatre, Rochester, U.S.A.

× × × ×

A VERY READABLE and useful little book is "Holidays in Eastern Counties," by Percy Lindley, price sixpence, published for the Great Eastern Railway Co., at 30, Fleet Street. The photographer will find the descriptions of places useful, while the lodging house and other information will appeal to all.

Readers wishing for information upon any specific point in connection with photographic theory or practice are invited to make use of the "query form," which will be found amongst the advertisements. All enquiries must comply with the conditions stated upon the query form; those which do not do so are neither acknowledged nor answered. All enquiries are answered by post. We cannot undertake to make replies in the paper. We print below from time to time a selection from the queries we receive, and our replies.

EXPOSURE FOR MOONLIGHT PICTURES.

Is it practicable to take a view by moonlight when the moon is at the full, and what exposure would be required?

Such views have been taken from time to time. Using a lens working at f/8 and the fastest plate now procurable, a negative of a sort might be obtained in one or two hours. The print would not resemble a moonlight scene, but a landscape taken on a grey day.

ENLARGING WITH A LANDSCAPE LENS.

I take all my negatives with a landscape lens. Can I enlarge with the same or must I buy a rectilinear?

Enlargements may be made with the landscape lens if it is stopped down sufficiently. If the negatives show signs of curvilinear distortion the lens to some extent will correct the fault as the conditions are reversed. The exposure, however, will be longer than if a rectilinear lens working at a large aperture were employed. This applies to enlarging by daylight. When copying by means of a lantern and condenser the conditions are different, and if the cone of rays is sufficiently small to pass through the stop the exposure will be no longer than if a larger aperture had been used.

THE SWING-BACK IN LANDSCAPE.

What is the result of pointing the camera level and then tilting the top of the swing back outward? Why is it sometimes suggested for landscapes?

One result is that the foreground is rendered on a larger scale relatively to the distance than would be the case if the back were set vertical. For this reason the practice is not to be recommended, as there is always a tendency to minimise the size of distant objects. The method is sometimes suggested when it is desirable to get both near and distant objects reasonably sharp when working with a large stop. The image of a near object comes to a focus at a greater distance from the lens than does that of a distant one, and by swinging the top of the focussing screen further away from the lens a certain amount of accommodation is obtained. When there are objects in the foreground rising nearly to the top of the view the plan cannot be adopted, as the upper part would be more out of focus than with the back of the camera set vertical.

PHOTOGRAPHING A WATERFALL.

I have exposed a special rapid plate on a waterfall, stop 1/10, at 12.30 in June, in soft light, with an exposure of half a second. I wanted to show the flow of the water and fear the exposure was rather short, and propose to use pyro-metol as being more energetic than pyro-soda. Will you tell me how to modify the developer in order to get detail in the banks before the high lights in the water become too dense?

Under the conditions stated the deeper shadows will almost certainly be under-exposed. There is no developer which is more energetic in the sense of bringing out more detail than any other developer. Pyro-soda will give just as soft and harmonious a picture as will pyro-metol. Dispense with potassium bromide and use only just sufficient alkali to bring out the image in a reasonable time; any excess will only serve to fog the plate. Stop development before the high lights are too dense, and if there is any detail in the shadows at all it may be strengthened by intensifying locally with uranium or with Edwards's intensifier.

COMBINED DEVELOPMENT AND FIXING.

Please give the formula for combined development and fixing? Is it desirable to adopt this process for general work? If not, what are its special benefits?

The formula given for combined development and toning was: Kachin, 4 grains; sodium sulphite, 40 grains; sodium hydrate, 4 grains; and hypo, 10 grains; and we do not know that it has been amended. The process may be worth trying in cases of known over-exposure, as it tends to give strong contrasts, and for that reason is quite unsuited for ordinary work. So far as we know, it has never been suggested as other than a curiosity in photographic methods which might under peculiar circumstances prove to be of value.

LINE DRAWINGS ON SILVER PRINTS.

Which is the best solution to use to remove the image from a print on which a line drawing has been made in waterproof ink? I find that the hypo and ferricyanide reducer leaves a yellow stain.

A solution of potassium cyanide will dissolve the image completely away and leave no stain, but as on account of its poisonous nature there is a difficulty in getting a small supply the photographer may use in place of it a solution of ammonium persulphate. Eight grains of the persulphate may be dissolved in water for each ounce of reducer required, and the solution slightly acidulated with sulphuric acid. The print should be fixed but not toned, and when placed in the reducer the image will quickly disappear. As soon as the last trace of the image is gone the print should be placed for a few minutes without intermediate washing in a five per cent. solution of sodium sulphite, and then in a clean fixing bath of ordinary strength. A thorough washing completes the process.

COPYING A FADED PORTRAIT.

What is the treatment for a faded portrait from which a copy has to be made? The print that is to be copied is very faint indeed.

Many methods of clearing or intensifying faded silver prints have been suggested, but none that we have experimented with have proved of the slightest value when copies have to be made, and in some instances, notwithstanding all care, the original has been spoiled by irregular markings. Faded prints copied in the camera frequently give much better copies than the original. Even lighting, correct exposure, and judicious development will do much, and when the parts that should be white have become yellow with age the use of an orthochromatic plate and yellow screen may assist matters. When the whites are still clear, but the image has faded to a pale yellow tint, a blue or violet screen may prove of assistance. In very bad cases it may be worth while to make a negative first, and from that an enlargement to be worked up, from which a small negative may again be made.

GRADATION BEFORE AND AFTER INTENSIFICATION.

When a negative is bleached with mercury and blackened with the ferrous oxalate developer do the gradations remain the same as is sometimes said, and if so what is the advantage of the process so far as print making is concerned?

Intensification by any process will always give greater contrast in the print. A homely illustration may perhaps make the matter clear. The gradation in the negative may be compared to a flight of steps, and the capability of the printing paper to render the gradations to a rod of a definite length A negative in which the gradation is low may be compared to a flight of very low steps, in which case the rod placed vertically by the side of them would be equal to a large number. If each step were doubled in height and width the gradation would be equal in height to half of them. If, however, the lowest step were to remain the same height and each in turn above it were to be increased more in height than the previous one the gradation would be entirely altered, and at the same time the rod would not be equal to so many as at first. If the procedure were reversed, the addition in height being made to the lower steps and not to the highest, the gradation would be reversed, though the number of steps equal to the rod would be less still. The various intensifiers affect the gradation of the negative in much the same way as we have supposed the steps to be altered, and, in consequence, alter the gradation in the print, but in every case the contrast in the print is increased. Mercury followed by ferrous oxalate is said, and we believe correctly, to increase the tones of the negative proportionately; that is, each step receives the same increase. Monckhoven's intensifier strengthens the lights more than the shadows, and is analogous to the heightening of the upper steps, while the uranium intensifier strengthens the shadows more in proportion than the lights. From this it will be seen that a correctly exposed negative, if too thin, is best intensified with mercury bichloride and ammonia, an over-exposed negative with Monckhoven's intensifier, and an under-exposed negative with uranium.

A side street, Alston *By W. Percy Mail.*

WORKING ON THE BACK OF A NEGATIVE.

Please say how tissue paper may be fixed to the back of the negative, and how the colour should be applied to correct faulty parts? I find the paper does not lie smooth. How is it applied to roll films?

The paper should be of a fine texture, papier mineral is generally used. It should first be thoroughly damped; this may be done by dabbing gently with a sponge, or by pressing between two sheets of wet blotting paper. A narrow line of strong mucilage should then be run round the edges of the negative on the glass side, and the negative laid upon the damp paper. With care there should be no large wrinkles, and slight irregularities will be drawn flat as the paper dries. The method of working depends upon the nature of the faults to be corrected. High lights may be strengthened by working with blacklead or black crayon applied with a stump, and shadows may be lightened in the same way, the finer details being put in with a BB. pencil. It is not, however, necessary to draw the details very exactly, as the negative supplies those. To strengthen the shadows or to cause details to print out in the high lights, the paper must either be cut away, or be made transparent with gum or clear varnish. To attach the paper directly to a film negative would be a very unsatisfactory way of working, because the paper would cause the film to warp, and because the grain of the paper, however slight, would be unpleasantly visible in the print. To soften the grain the tissue paper must be separated from the print by at least the thickness of a sheet of glass. The better plan is to fix the film to the sheet of glass that supports it in the printing frame, and to attach the paper to the other side. A similar effect is obtained by attaching the film to the clear side of a sheet of ground-glass, on the rough side of which the work may be put in the same manner as upon the paper.

NOTICE TO ENQUIRERS.

Answered by post: W. G. Wroughton, H. J. N. F. Cartwright, T. G., Alpha, H. G. Walker, Phœnix, Miss C. Webb, E. Boxall, B. A. B., H. S., Subscriber, Panoram, C. H. Harper, Focal Plane, J. S Prince, G T. Hunt, S. T. Featherstonhaugh, S. J., Grateful, W. T., Mrs. Crofton, T. D., J. R. C., F. A. Ahrlé, F. L. N., Amidol, Apprentice, Kodak, A. H. Gower, A. H H., T. Ferryman, W. Cottenham, B. G. J., E. R T., Constant Reader, G Thora, Anastigmat, Bertie, P. B. Brockenhurst, Lord Lumley, R. C. D., M. A. W., T. Carlyle, J. F. Dexter, G. N. Gladwin, F. C., X. Y. Z., Klito, Frenagraph, J. Platt, A. S. H. Elder, Lieut. W. O'Neill, J. H. H., Professional, H. A. Salway, Shutter, Newcastle-on-Tyne. Harry M. Martindale, A Escritt, A. W. B. G., Videx, C. J. Worthington, S. T. H., Telephoto, G. Persee, C. J., Admirer of Photography, Miss K. Lacey, T. W. Ireland, Ernest K. Forster, Fleet Street, Shareholder, A. Pierce, H. Macdonald, Annoyed, Clapham Junction.

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NOTICE TO CORRESPONDENTS.

All letters, advertisements, etc., must reach the office on Friday morning to ensure being dealt with in the issue for the next week. In cases of great urgency, letters delivered up to the first post on Tuesday morning may be in time to receive attention, but this cannot be guaranteed.

Communications for the Editor should be addressed, The Editor of *Photography*, 3, St. Bride Street, London, E.C.

In all publishing matters, letters, orders, etc., should be addressed, ILIFFE & SONS LIMITED, 3, St. Bride Street, London, E.C.

Advertisement copy and orders, and these only, should be sent to the printing works. They should be addressed ILIFFE & SONS LIMITED, Coventry.

LEADER

Mounting by Heat.

On another page this week will be found an account of a new method of mounting prints, which seems to get over most of the difficulties which beset that process. We dealt only a few weeks ago with the task that lies before the photographer who wishes to mount his gelatine prints, and yet to preserve their gloss. It will be seen that Mr. Roloff does so by making use of shellac and its property of liquefying with heat.

We are inclined to regard this process as a real advance in mounting. It is, in the first place, free from the dangers to permanence which are brought about by employing as mountants substances which decompose and give rise to products of decomposition which attack the silver of the image. Pastes and gums, unless they contain a sufficient quantity of an efficient preservative, are very prone to become acid in time, and the compounds so formed are an energetic cause of fading. This can be seen in countless examples, and is shown in its most unmistakable manner in books like "The Pencil of Nature" and "Sun Pictures in Scotland," where we have silver prints mounted with gum by the edges or corners only. In many cases the image in those parts which were gummed has entirely vanished, while in other parts it is as good as ever it was. Gelatine, if good, is free from any danger of this kind, but the commoner sorts of glue are often deadly foes of a silver print, and are unfit for mountants through their decomposition having commenced even before they are used.

Shellac is quite above suspicion in this respect. It is a resinous body, although not a true resin, since its origin is animal rather than vegetable. Its name, "lac," refers to its production, being identical with the Indian "lakh"—a hundred thousand—suggesting the multitudes of the tiny "cocci" to which the lac which incrusts the leaves of the trees they frequent is due. It has all the characteristics of the true resin, however, including that most notable one of permanence, which has given that group of compounds its widely-extended use for embalming purposes, and, in later times, as a protective varnish. The shellac used for mounting, therefore, may be assumed without any disquiet to be inert, as far as the image on the print to which it is applied is concerned.

The fact that it is applied to the print in the form of an alcoholic solution is sufficient to remove all fear that it may affect the surface of the print, which is only likely to suffer damage from moisture.

The unalterability of shellac is in its favour in another respect. A solution of rubber in naphtha makes an excellent mountant, which does not affect the gloss of gelatine prints, but has one serious drawback. In the course of a year or two, the rubber perishes, and the print drops off. This, we should think, is not likely to occur with shellac mounting, and gives it a decided advantage over the rubber solution.

In one other respect it should be superior to gelatine paste or gums. It is often pointed out that with a gelatine mountant the print is insulated as it were from its mount by a film of gelatine, and so to some extent is protected from anything in the mount itself which otherwise might injure it. A film of shellac between print and mount, such as would exist in the case we are considering, would be a more efficient protector than the gelatine, by reason of its far more impervious nature.

In short, the proposed plan of mounting with lac by means of heat seems to us to be a noteworthy step towards the attainment of a perfect mounting method, and one which should in the near future enjoy deserved popularity.

Spirit of the Times

"A NOVEL TELEPHOTOGRAPHIC APPARATUS."

Under this title, our monthly contemporary, the *Illustrated Scientific News*, has an article which is not likely to raise that publication in the eyes of its photographic readers. This "novel telephotographic apparatus," it appears, is a telescope with the eyepiece removed. We must here enter a protest against describing what is nothing but photographing with an ordinary long-focus lens as telephotography at all. This in passing. The article goes on to describe how the cumbersomeness of apparatus for long-focus lenses is got over by the assistance of mirrors. It says: "The rays emerging from the objective A will strike the plane mirror B by which they are reflected on the second mirror C to be conveyed after another reflection to the photographical plate" *(sic)* "placed at D. The focal length of the objective is thus broken into three sections, the total length of the apparatus being only three and a half inches." The losses by reflection are said not to exceed five per cent., but what puzzles us most is that, although the lens used, we are told, has a focus of eight feet, by reflection from three mirrors the total length of the apparatus is reduced to three and a half inches. Those who care to work this out will see that its ingenious designer has succeeded in getting down its length to three and a half inches by increasing its width to something over three feet. That is to say, if the figures given by our contemporary are correct—which we doubt. We learn that this novel apparatus is likely to prove useful for scientific and industrial purposes and in warfare, for photographing such things as volcanic eruptions, wild animals, and heavenly bodies. "Orthochromatical" plates have been used successfully with it. Military and naval officers can use the apparatus alternatively as a telescope and as a photographic attachment. The apparatus itself very likely is a thoroughly serviceable article. The description in our contemporary is clearly not the production of a writer having any photographic knowledge, and is hardly the kind of article that we should expect to see in a journal calling itself scientific.

* * *

COBALT AND SILVER SULPHOCYANIDE.

Some interesting work has been done recently by Shinn and Wells with the double sulphocyanides of cobalt and silver. Cobalt silver sulphocyanide forms deep blue crystals, which when dehydrated, change to dark green. Many cobalt salts when dehydrated by being warmed change colour like this, or become coloured if transparent when moist or damp. "Sympathetic" and "invisible" inks are made with cobalt salts because of this. As the double salt of silver and cobalt, then, partakes of some of the *physical* nature of cobalt compounds, it is quite probable that it similarly possesses many physical properties peculiar to silver salts. Unfortunately, the authors of the paper do not seem to have experimented with the compounds in any photochemical way, and thus much valuable information is given us in an unfinished state. This is not the first time we have deplored the fact that chemists fail to appreciate the importance of photochemical research, and much good experimental work would be rendered doubly valuable, and often doubly easy if only they would rise to the occasion. The sooner photochemistry becomes a recognised part of the ordinary chemical course of education, the better it will be, and the faster will advance in many branches of inorganic chemistry undoubtedly take place.

* * *

METHODS OF ADVERTISEMENT.

The Kodak Co. is never without ingenious schemes for securing advertisement, and one of the latest, as our metropolitan readers are doubtless aware, from the hoardings, was a "Kodak day" in Wembley Park, when a competition for photographs taken with Kodaks in the Park brought out over a hundred competitors. The day fixed was August 1st, weather permitting, and as the weather's permission was very grudgingly accorded, last Saturday also was treated as a Kodak day. Kinematograph displays and demonstrations of Kodak products, together with an exhibition of prints, were held in the great hall, and from our representative's report and other evidence there is no doubt that the company will find its enterprise has paid it well. Another ingenious advertising device is noted, this time from an Anglo-French syndicate which is developing a new watering-place near Boulogne—Le Touquet to wit. Amongst its schemes for attracting visitors is an amateur photographic competition for photographs taken at Le Touquet, with money prizes amounting in all to £250. The idea is a good one, as the place is certainly picturesque, and the attraction of the prizes should not only draw photographers there in the first instance, but their work should tend to induce others to go. There is nothing like an attractive photograph to lure a visitor to any particular spot, and the Touquet Syndicate seem to realise this.

* * *

PHOTOGRAPHING THE EMOTIONS.

One of the popular snippet publications which seem to appeal to the general public nowadays to an extent which is only explicable on the assumption that Carlyle's supposition was a correct one, has been giving a portrait of Dr. Baraduc and some reproductions of what purport to be photographs of "emotions." Thus we have an illustration of "the emotion of love," "the impression made by violent rage," "eager expectation as the camera recorded it," "the visible symbol of religious devotion," and so on. Our contributor "The Walrus" dealt with the methods employed to obtain these absurdities in a recent paragraph in his "Piffle," and we need only refer to them here as examples of the kind of thing which is welcomed by the general public. The article makes the suggestion that the process might be applied to domestic and other animals who experience emotions as well as human beings. The useful, patient donkey as a "passive resister" would take—and often does—a lot of beating, while Chanticleer would doubtless be found to have Mohammedan leanings. Perhaps some of our experimenting readers may try their hand at the photography of "the emotion of pride" in a peacock, of affection in a terrier, or of low down, deep-seated cunning in a cat, and let us know the results, if any. In the meanwhile; they may be glad to know that "the emotion of love makes blurs on the plate," as really might have been expected, and, what is more, that "some have the appearance of fireworks."

* * *

THE CHEMISTRY OF FIXATION.

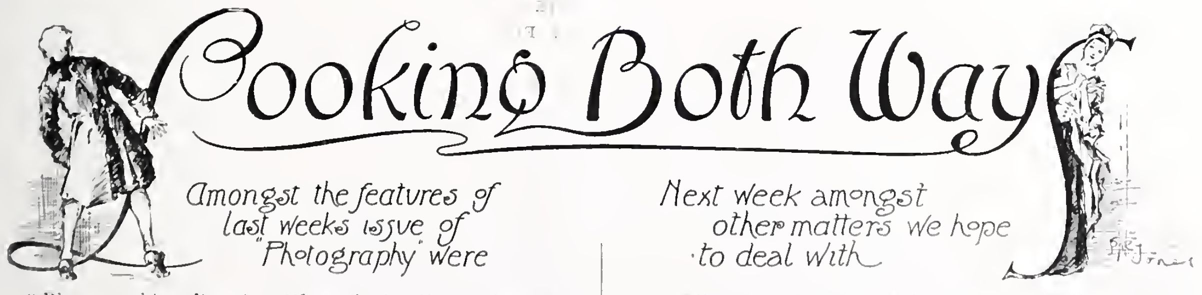
At the recent congress of applied chemistry, Herr Gaedicke read a paper on the double salts of silver and sodium thiosulphate (hypo). It is well known that when a plate is put into the fixing bath, silver thiosulphate is formed, which combines with some of the "hypo" to give the double salt silver-sodium-thiosulphate, of the formula $Ag_2S_2O_3$, $Na_2S_2O_3$. This double salt being soluble in fixing solution, the unacted upon silver bromide, etc., in the film is removed. Until the present time it was considered that only two of these double thiosulphates existed, but, according to Gaedicke, a very large variety is capable of being formed, the composition varying according to concentration. Thus one molecule of silver thiosulphate can combine with six of sodium thiosulphate and six molecules of water of crystallisation in one case, and with nine of the sodium compound and thirty-two of water of crystallisation in another. The relative proportions of hypo-silver thiosulphate and water (as water of crystallisation) apparently depend almost entirely on whether the silver salt originally is a bromide, chloride, iodide, or organic salt. Hence we can now assume that we shall get different forms of silver-sodium-thiosulphate, according as we are fixing a plate containing silver bromide, chloride, iodide, or nitrate. The matter is one of considerable interest theoretically, but as long as all the compounds are soluble and can be removed, the practical man will be in the same position precisely as heretofore.

* * *

IRON PRINTING METHODS.

We cannot help thinking that the day when printing processes depending on iron for their essential element will equal or replace those in which silver salts are used is slowly drawing nearer. Combinations of silver and iron are receiving more and more attention from chemists. Selenotype—a process we referred to recently—is only one example of the unexpected way in which improvements may be accomplished. Dr. Sturenberg has contributed some articles to the *Revue Suisse de Photographie*, giving some interesting iron formulæ with which, as they make excellent sensitisers for the popular postcard pictures, some of our readers may like to become acquainted. One paper, which will keep for three months before use, is made by brushing over a sized paper with a twenty per cent. solution of green iron ammonio-citrate, to which a trace of ammonia has been added. The paper is printed in daylight until a weak image has appeared; it is then developed with a one per cent. solution of silver nitrate acidulated with acetic acid. The process is similar to the ferroprussiate, except that silver nitrate is used with the iron compound instead of potassium ferricyanide. The prints may be toned with gold, but in any case they should be passed through a weak solution of hypo before being washed. A very interesting method is to sensitise with ferric oxalate fifteen grains, oxalic acid and silver nitrate each three grains, water two drachms. Development is carried out with a solution of borax and sodium tartrate. The prints are then toned with a platinum bath, and fixed in weak ammonia.

Humbleton Mill, Wooler.



Looking Both Ways

Amongst the features of last weeks issue of "Photography" were

"Photographing Running Water." By Ernest Marriage.
"The Light in which to develop Orthochromatic Plates." By Sir William Abney.
"Building a Landscape." By B. C. Wickison.
"Moorish Life and Manners." By John H. Avery.
"Traps and Pitfalls for Beginners in Photography."

Next week amongst other matters we hope to deal with

"A Pilgrimage to Lourdes." Written and illustrated by G. E. Thompson.
"The Boy with the Brownie." By "Cunetator."
"Piffle." By the Walrus.
"Some Experiments with the Cooke Lens." Written and illustrated by F. J. Mortimer

A Hand Camera and a Windmill. By S. L. Coulthurst.

SPECIAL TO "PHOTOGRAPHY."

A SHORT time ago circumstances took me to a picturesque district far from the busy haunts of man and out of the way of the everyday tourist. We were nowhere near a railway station, but in the midst of a thriving farming country; yet the sea was within sight, and we could hear its roar all the day long. It was an ideal spot in which to be lazy, and the opportunity was taken advantage of to the full.

There were no "sights" to stir our souls to rebellion, everything went on each day in the same humdrum style. We were with Nature, could study her moods as we wished, and take mental note of her ever-fleeting changes. Photography was not to play a part of this holiday. Oh, no! But what enthusiastic camera man can resist the temptation of exposing a few plates? So a half-plate camera was packed away with the rest of the luggage, and a few quick plates backed by the maker ready for use.

In the district there lay a landmark in the shape of an old windmill. Now this windmill "got at me," as it were, every time I went out. Even as I lay in bed of a morning debating with myself whether I should get up at once, or in an hour's time, the usual end of the discussion was that it got round to that windmill and its pictorial possibilities. This, of course, led to visiting it, to noting its points from all directions, until my determination not to photograph had gone to the ends of

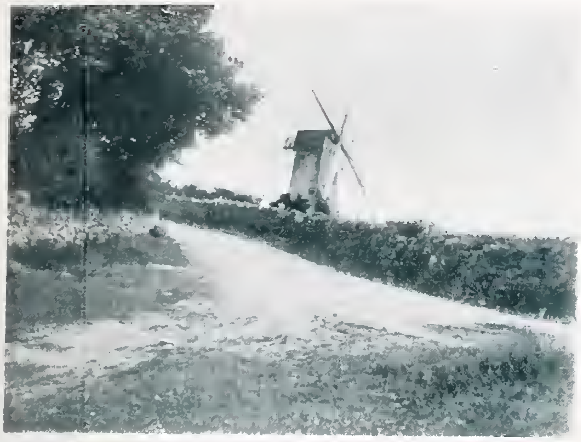


Fig. 4.

the earth, and the camera came out pretty often when I went the way of that mill.

The prints reproduced herewith will give an idea how differently the selfsame subject may be treated, with varying pictorial success. No. 1 will show its general position. Then we may get closer and tramp round it, studying it at various visits, under various lightings and conditions, but mostly under sunny skies. Coming close to it, the mill towering high above us, it can be approached on several sides. We break through a rough, thorny hedge (getting scratched in the process), and in a rough piece of pasture land view it from rather a bold standpoint, and expose a plate or two from thence. There were some fine rolling clouds in the sky at the time, and the gradation of sky, mill, and foreground being preserved, we get the result shown in fig. 2. After taking this and No. 3 I wrote for more plates—to come at once

But we were where things are very slow, and not always sure. I watched the "postman" (a comely lass of about eighteen) morning after morning as she came down the path from the high road to the house, but—no plates. I could stand the sight of the mill no longer, and fell into the habit of going out the back way through the farmyard and the fields with my back to it, and then on down to the rocks by the seashore. There I watched the sea break into white foam, throwing up mighty showers of spray every few moments, and skies blowing over the sea that also brought on the camera fever so bad I fain would go and quiet it playing ping-pong at the "Blue Bell."

I called in despair at the post-office as I came from the sea, and lo! my plates were carefully stowed away, "*Waiting for a cart to go your way.*"

No time was lost before another visit was paid to the mill, and several records made of it. One day I was sitting waiting at the corner of two cross roads, when the slow rumbling sound of a farmer's cart fell upon my ears. A plate had previously been exposed on the subject (No. 4), but it was lacking in life and wholly uninteresting. On came the cart, out of sight, but as the sound showed it to come nearer and nearer I took up a position, and soon another plate (No. 5) was exposed, quickly changed, and then another (No. 6) before the cart could get away. I cannot help thinking that the last of the three is the best.

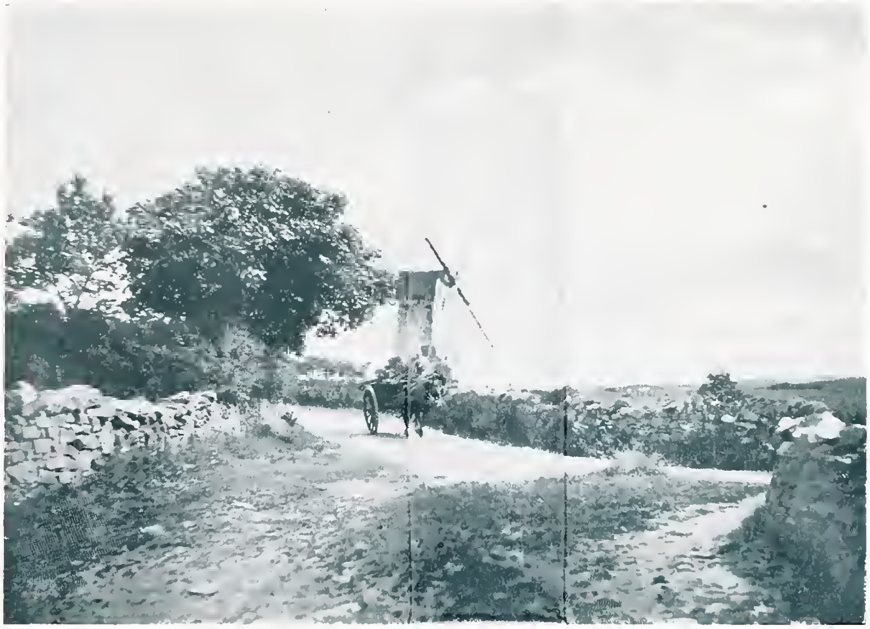


Fig. 5.

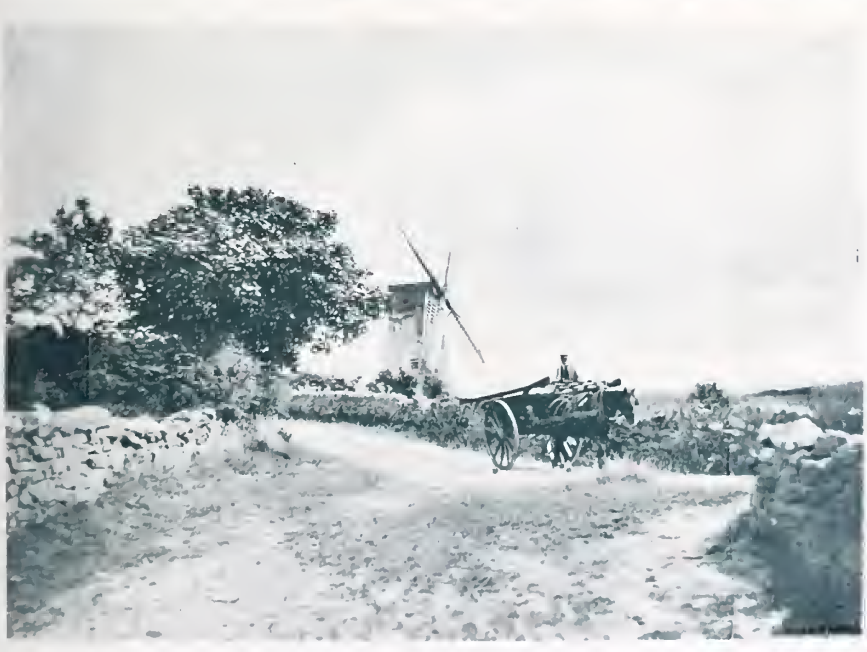


Fig. 6.

I need hardly add that I do not offer these photographs as pictures, nor claim for them any distinguishing merits, but perhaps they may be taken as suggestions showing how by working round a given subject there is much more reasonable hope of obtaining the best out of it. The mill still haunts me, and it is possible that in the near future I may go again.

PHOTOGRAPHIC BOOK-PLATES.

Special to "Photography"

Written and Illustrated by James E. Masters.

SLOWLY, it is true, but steadily is photography gaining for itself a distinct position in the minds and thoughts of all true lovers of the beautiful in nature and art. Mrs. Carine Cadby (to mention but one name) has shown us the enormous possibilities of photography in the hands of an artist as a means of producing purely decorative work of a very high standard of merit.

I do not, however, intend in this article to treat so much of photography pure and simple, but more particularly of photography in connection with pen and ink or brush work as a means of useful and interesting pictorial expression. The use of camera and pen work combined is no new idea. We have seen numerous examples of photographic work (mostly "still life" and flowers) in combination with fearful and wonderful "freehand" designs, which generally defeat their own ends by an appalling want of simplicity, the keynote and crowning glory of all true decorative work. These efforts have mostly been in the form of designs for Christmas cards, bookmarks, and other such inarities, which cannot serve any useful purpose apart from, perhaps, a certain amount of amusement and gratification derived during their production.

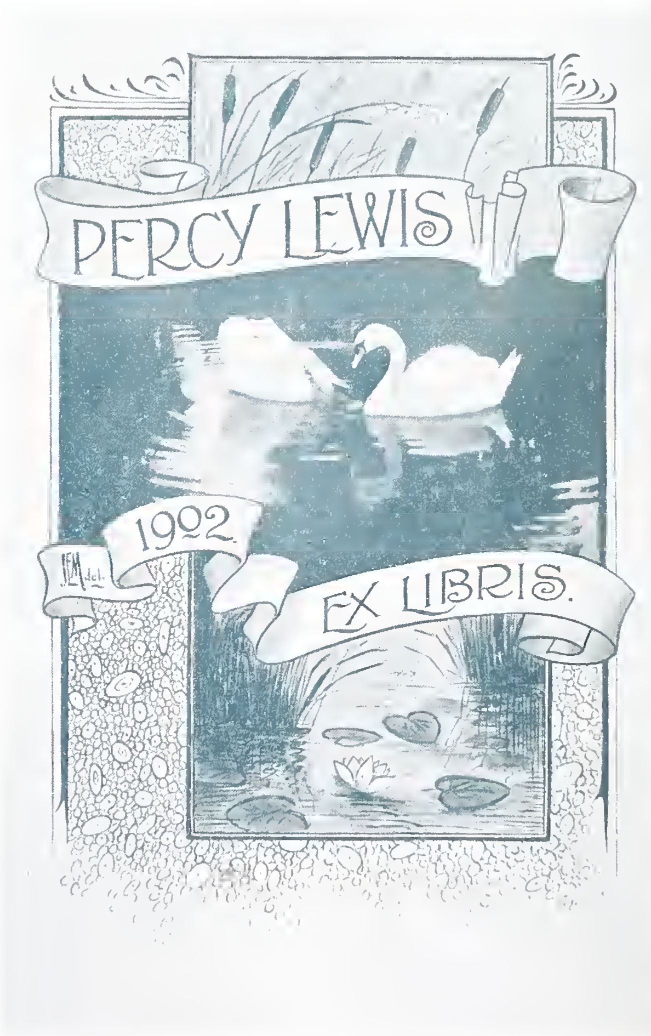
The production of a photographic book plate is, however, a worthy employment for our artistic skill, inasmuch as not only does it allow full scope for individuality and pictorial effect, but the results we achieve should prove not only of a passing interest, but also of a wide sphere of usefulness.

The evolution of the pictorial book plate is practically only of recent date. There was hardly any artistic merit in the bulk of British book plates previous to the nineteenth century, the older designs being, as a rule, the atrocities of the heraldic stationer rather than the production of an artist. Of late years, however, it has been realised that the book plate, by being made pictorially attractive, is more an embellishment to the volume it adorns. Some of our leading artists have devoted their attention to the production of "Ex Libris" designs with excellent and gratifying results, but the possibilities of photography in the same direction seem as yet to have hardly been recognised.

The photographic book plate in its simplest form would consist of merely the necessary lettering inserted in a blank space of a suitable print, so that it will be seen that a fair proficiency in lettering is all that is really essential to the careful worker. A good knowledge of drawing will certainly be found helpful, but it is in reality an advantage rather than a necessity. The two accompanying illustrations are included merely as suggestions to any reader who may decide to attempt something along these lines, and also in the hope that they may possibly convey some slight idea of the wide field open to the artistic photographic worker.

I have purposely avoided giving any very elaborate examples in connection with this article, but have confined my illustrations to fairly simple designs, such as should not prove beyond the capabilities of the majority of readers of this magazine.

In working out an "Ex Libris" design an effort should be made to infuse to a certain extent the individuality of

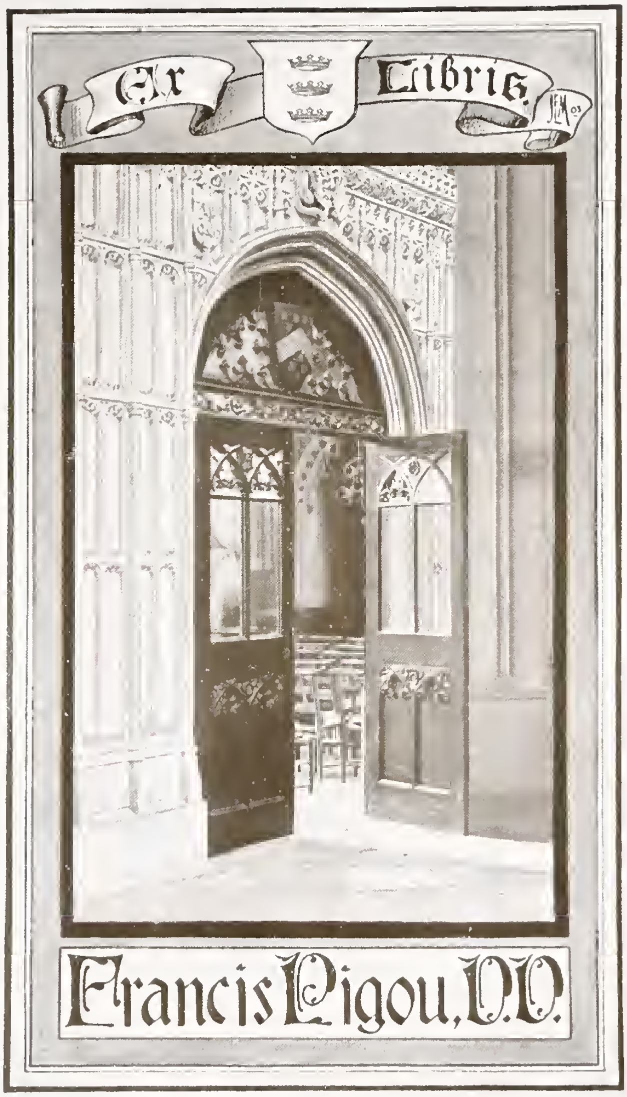

PERCY LEWIS
1902
JEM del.
EX LIBRIS.

the owner, but in doing this great tact must be employed in order that a too obvious reference be avoided. The worst of bad taste in this direction is the portrait plate. The late Gleeson White was strongly averse from any direct representation of the owner's tastes in an "Ex Libris" design, and the following passage from an article by Mr. G. R. Dennis in a recent number of *The Artist* will convey my meaning far better than any words of my own:

"Pictorial book plates are still looked upon with suspicion, not to say abhorrence, by many of the more serious 'Ex Libris' collectors. They consider the armorial, the library interior, or book pile, or even that abomination, the portrait plate, to be more appropriate to its purpose than the purely decorative design. Symbolism, it is true, has been carried to excess. In Germany especially book plates have been crowded with every conceivable object which could in any way have been connected with the owner, from Rontgen rays to men-of-war. Even in England it still seems to be thought necessary in many cases to fill a plate with symbols of every hobby or pursuit indulged in by the owner. Such extravagances have naturally tended to bring the pictorial design into disrepute; yet, adequately treated, it is certainly as well adapted to its purpose as any other form of 'Ex Libris.' It should reflect in some way the owner's personality, but the function of art is to present ideas, not facts, and any realistic reference to tastes, hobbies, or professions is out of place."

A few hints as to the production of a photographic book plate may prove of interest to the reader. The selected print should be mounted, and the necessary lettering and any other work in the way of a border design executed as neatly and carefully as possible. The whole should then be copied to the required size in the camera, and in doing this great care should be exercised in seeing that the design and the focussing screen are *perfectly parallel* with each other. A very slight error in this respect will throw the whole thing out of the square and make it practically useless. Either quarter or half-plate will be the most serviceable sizes to use, and, if only a moderate number of copies of the design are needed, platinotype is by far the best printing process to employ, as not only will the results be permanent, but the image is on the surface of the paper itself and not on or in a gelatine or other film. Photogravure or collotype would be preferable were a very large quantity of copies required, on account of a considerable cheapening in the cost of reproduction.

Almost any class of subject may be used in the production of the "Ex Libris" design, but do not let us on any account sink to the level of "still life" studies, which are the lowest form of art. Flowers will be found of great utility and amenable to artistic treatment, provided they are not stuck in incongruous vases or photographed against impossible backgrounds.



In conclusion, I trust the foregoing remarks will induce at least a few readers of *Photography* to attempt this extremely fascinating and useful branch of photographic art.

J. E. Masters.

"The Corporation Guide to Weymouth," printed and published by Messrs. Hood and Co., Ltd., of St. Bride's Works, Middlesbrough, at sixpence, is one of the best arranged, illustrated, and printed books of the sort that has reached us this season. It bears illustrations on nearly every page, and is well bound in green cloth.

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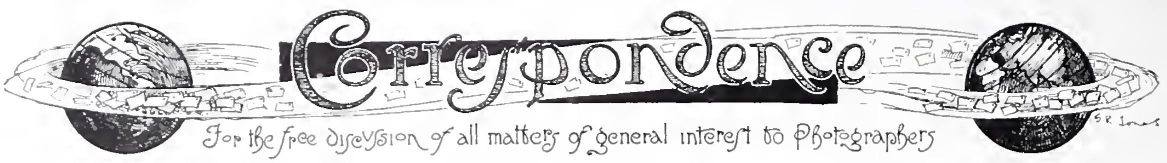
"The Journal of the Photographic Society of India" says: "Our heartiest congratulations to Mr. Child Bayley for the vast improvement he has recently effected in our up-to-date and sprightly contemporary *Photography*. We make no hesitation in affirming the debt of gratitude we labour under in respect to this interesting periodical: our 'Hints and Wrinkles' and 'Extracts' bear frequent testimony to the appreciation in which we hold Mr. Child Bayley's journal. Of its recent innovations by no means the least entertaining is the weekly column the joint effort of two individuals rejoicing in the pseudonyms of 'The Walrus' and 'The Carpenter' under the heading of 'Piffle.'" The India Society, we are glad to note, is flourishing, and we hope we shall not be accused of bandying compliments if we say that its own journal has manifested a most wonderful improvement of late. The society announces a Salon for its members' work, which will be held in the club rooms from the 21st to 31st of December.


Correspondence
For the free discussion of all matters of general interest to Photographers

The Editor is not responsible for the opinions of his correspondents.

THE "ACID" FIXING BATH.

Sir,—With regard to your remarks about the use of "acid" fixing baths in *Photography* of August 1st, on page 97, perhaps you will allow me to say that there are certain advantages to be derived under certain circumstances from the use of such baths which you do not mention. First, although I fully agree with what you say about the actual *removal* of stains, still my experience is that, if the developer contains only a little sulphite, the use of an "acid" fixing bath is decidedly advantageous, as stated in my article in *Photography* for January 1st, 1903, as a means of *preventing* the formation of stains. In the case of many phenols three per cent. of sodium sulphite (Na_2SO_3 $7H_2O$) in the developer is sufficient to prevent stains when after development washing in water is resorted to. Five per cent. is sufficient in the case of all except "pyro," in which case if no stain at all is to be risked at least seven per cent. should be used. Of course the amount of sulphite varies with the concentration of the phenol and alkali—my figures refer to normal concentrations only. Another occasion on which the "acid" fixing bath comes in very handy is the all too common case where no running water is available in the dark room. I mean all too common in the case of amateurs. I personally never use an "acid" fixing bath for negatives, as I have plenty of running water in my dark room, and I always use an amply sufficient quantity of sodium sulphite in my developer. There is one case in which an "acid" fixing bath is a great advantage under any circumstances, and that is when dealing with large bromide prints (say, 10in. by 8in. and over). In this case I consider an intermediate washing between development and fixing is much better avoided for two or three reasons, the most important being (1) the danger of incomplete washing and (2) the danger of tearing.

In the case of bromide prints generally, fixing immediately following development obviates all chance of continued development taking place in the intermediate washing operations. In making enlargements on bromide paper, I have found the "acid" fixing bath a great convenience, and I always use it under these circumstances. The actual bath I use and the method of mixing it are as follows:

(1.) Powder in a mortar and then dissolve in water 280 grains of sodium sulphite (Na_2SO_3 $7H_2O$) and seventy grains of citric acid, and make up to ten ounces with water.

(2.) Dissolve three ounces of hypo in water, and make up to ten ounces.

When solution is complete in both cases, but not before, mix 1 and 2.

I never renew the bath by adding more hypo, but throw the whole away when it has done sufficient work. *In any case*, I don't keep it more than a month or so. I of course keep it in a well corked (or stoppered) bottle. The deposition of sulphur you mention will certainly not occur if a bath such as I give is used, and the precautions taken which I have just advised. The deposit, I should think, is due to two causes: (1) Too much acid was originally added; (2) the bath has been kept too long and perhaps not too carefully corked up when not in use, so that the bisulph*ite* and sulphur*ous* acid has been oxidised to bisulph*ate* and sulphur*ic* acid.

As a general rule I think it may be taken that no more acid should be added than is sufficient to form bisulphite, *i.e.*, in the case of citric acid and sodium sulphite (Na_2SO_3 $7H_2O$) one part of citric acid should be added for 3.6 parts of sulphite. As a matter of fact, one part or even a good deal less of citric acid to four parts of sodium sulphite is ample, and this is the amount I advise. In most printed directions too much acid is advised, and not enough stress is laid on the importance of not adding the acid to a solution of hypo directly. The acid must be added, as I have said, to the sulphite alone, and when both sulphite and acid are dissolved the solution thus formed is added to the "hypo" in solution. The "acid," or, as I would call it, "bisulphite" fixing bath has suffered in reputation chiefly because those who have advised its use have not been sufficiently acquainted with the theory of its action, and so have not advised it to be used in its most suitable, and in fact only safe, form and manner. I am sure, however, that under certain circumstances it will prove most handy, and by no means deserves to be drubbed out of photographic practice.

Yours, etc.,
R. E. BLAKE SMITH.

THE R.P.S. LOAN EXHIBITION.

Sir,—May I be allowed to make a few comments on the leader in your last issue?

In characterising Mr. Horsley Hinton's recent attack on the R.P.S. as venomous, you will have, I am sure, the support of all those who prefer that the exhibitions of the old society should continue on the traditional lines of advertising photography rather than photographers.

That the members of the Linked Ring should possibly decline the invitation of the President of the Royal Photographic Society to contribute to the loan section is, in my judgment, a matter which should only concern themselves. The reason assigned by Mr. Hinton for this possible refusal —that the success of the loan section would militate against the success of this year's Salon—may or may not be the true one. Its validity is certainly open to argument, but, again, whatever the decision and whatever the reason for it concerns the Linked Ring only.

Mr. Hinton's attempt to deter outside contributors on the ground that he and his sympathisers are withholding their support can only be described as childish malevolence.

It is as well that the photographic public should know how matters stand. The 1903 exhibition of the R.P.S., to be held in the autumn, will contain, in commemoration of the society's jubilee, a loan section of pictorial photographs designed to illustrate the past and present of photography as an art. In the invitations to this section it is expressly stated that previously exhibited works will be welcomed. *Vixere fortes ante Agamemnona.*

The refusal of any or all of the photographers mentioned by Mr. Hinton may possibly affect the quantity of work shown, it can hardly affect either its quality or its character.

Yours, etc.,
DOUGLAS ENGLISH.

Sir,—Referring to your editorial last week on the question of the R.P.S. Loan Exhibition and the alleged refusal to support it on the part of several well-known workers, it seems to me that the true aspect of the circumstances is being somewhat overlooked. In the first place it must be remembered that the exhibition is a special one in connection with the R.P.S. jubilee, and the object seems to be to show where we stand in photographic achievement in the present year as compared with the attainments of fifty years ago. Times are changed. *Then* photographic workers were comparatively few, and they had to contend with difficulties and disabilities so vast that a few of them by long and arduous efforts succeeded in standing out from amongst their fellows as giants amongst pigmies. An exhibition of that date purporting to show the best photographic results would have been a farce if the work of those giants had not been included. *Now*, the army of photographers is legion, and the levelling up of the standard of work, owing to improved methods and greater facilities for artistic and technical education, has made it difficult or impossible for giants to exist. Some would have been giants indeed in the pigmy days, but in the ranks of tall and lusty soldiers they only stand as fine men amongst fine men.

It will be a matter for regret if all those workers whose names have been mentioned decline to support so worthy a project as the R.P.S. has in view, but even should this be the case, the exhibition can, and will, succeed without their aid. To my mind, there is not one single person named whose work is *matchless* or of such a character that an exhibition of representative work must be inadequate without it. An exhibition including examples from all

Whitby Fish Market.

By Harold Hood.

these workers would be obviously more complete, but not necessarily more representative. It would represent more workers, but not necessarily more types of work.

If the assumption be, as it seems, that without the aid of a certain coterie nothing but second-rate work can be secured, there is little warrant for such an assumption. The formation of cliques and of log-rolling squads in the photographic world is to be strongly deprecated, and certainly the present object of the R.P.S. is one that might well command generous and unselfish aid from all who can further its accomplishment. Yours, etc.

W. L. F. WASTELL.

PROTECTION FOR PHOTOGRAPHIC MANUFACTURES.

Sir,—The absurdity of the position taken up by Mr. Randall is easily shown. He asserts that by the imposition of an import duty the price of goods is raised by the amount of duty. Let me take the case of pyrogallic acid, which we largely import from Germany, and I will ask him to assume that an import duty of forty shillings per ounce is imposed on pyro, worth now a shilling per ounce. Does Mr. Randall contend that we should be unable to purchase pyro for less than forty-one shillings an ounce thereafter? And, if not, how does he explain the difference in the two cases? Yours, etc.,

ARTHUR CROWE.

Sir,—I am compelled to repeat my assertion that the suggestions made by "Would-be Martyr" in his first letter resulted from a "superficial examination of the question," and again lay myself open to the charge of being a "superior person." The issues raised in his first letter had little to do with the question of protection v. free trade, and as I endeavoured to show his proposed tariff of forty-five per cent. was in reality a proposal to depreciate the value of photographic capital. To impose protective tariffs on articles of limited consumption is to relieve competition, hence the value of money within the protected trade rises, and a £100 of capital may rise to a value of £105 or £145. But as outside the protected area £100 is still only worth £100, it means that when he comes to sell or exchange his commodities the photographer must give £145 for £100. He does not do this, of course, but raises prices against the buyer to £145. The proposal of "Would-be Martyr" is therefore neither protection nor free trade, but simply a proposal to raise prices against the consumer. With respect to protection v. free trade, as generally understood, I am not greatly concerned, believing that it makes but little difference which system is adopted. British platemakers hold their own against the world in spite of free trade, whilst British camera makers can only compete successfully with the better made and more expensive cameras. Under protection the same state of affairs would continue, because the British manufacturer is unable to lower his costs of production. The assertion of "Would-be Martyr" that British camera makers can, and do, compete successfully with foreigners is obviously wrong, considering the number of foreign cameras which are sold. A protective duty will not therefore benefit the British camera maker, since if all foreign cameras are cut off he is not in a position to meet the demand for cameras of the foreign type without investing capital in creating a new industry, which would mean a rise in cost of production, and consequently a rise in selling prices.

The same causes would operate in the case of the three cameras which sell at a guinea each—one made in Germany and two in Great Britain. This, as a matter of fact, would need to be reversed, for the proportions of cameras sold are more likely two German or American to one British. A tariff of forty-five per cent. throws the German cameras off the market, and we are left with one or two cameras, as the case may be, instead of three. According to "Would-be Martyr," the British camera maker would make more cameras. This would mean fresh capital, increased cost of production, and a rise in price. In my opinion the camera maker would do nothing of the kind; he would as a sensible man, raise the price of his two cameras to thirty-one and sixpence each, since it would pay him better than selling three at a guinea apiece.

Yours, etc.,
JOHN A. RANDALL.

HOME-MADE PINHOLES.

Sir,—I am afraid Mr. Gough and all the rest of us will sooner or later have to get reconciled to the metric system. I am coming to it—gradually. Meanwhile we can all think in thousandths of inches, and that will do. I have enterprisingly manufactured some "cheap measured unmounted pinholes," but they are not on the market. Yet in a sense they are. They are halfpennies. A hole is *punched* in the middle of each with a centre punch, removing the burr at the back with a very fine file, and finishing with emery cloth, and trying with a needle. The needles I got after considerable trouble to the accurate micrometer measurements of .01, .02, .025, .033, .04, .05, which correspond, of course, to the 1-100, 1-50, 1-40, 1-30, 1-25, 1-20 of an inch.

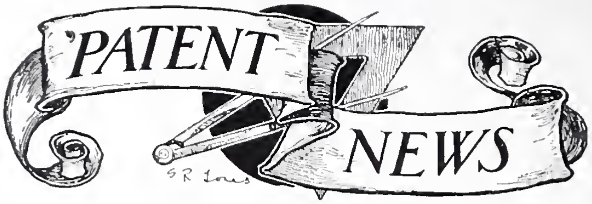
A spare front panel has a circular recess cut in it, of the same depth as the thickness of the halfpenny. And in the middle of this a hole about three-eighths of an inch is cut through. Both the back of this and the front of the pinhole in the halfpenny are bevelled so as not to "cut off" at a wide angle. The halfpenny is secured by dark slide turn-buttons to the camera front.

I am indebted for the punching idea to a writer in the "B.J. Almanack"—I forget whom. With a pinhole .01 on a quarter-plate, distant 2½ inches, I have got results leaving little to be desired in the way of definition. Of course, as you point out, exposure is the weak point as well as sharp definition. But I should think in photographic surveying the pinhole should have a chance.

Yours, etc.,
THEODOLITE.

[Since receiving our correspondent's letter, *Western Camera Notes* has come to hand in which a contributor says, upon this same subject, "In an old scrap book made some five years ago, I find a clipping from some British magazine in which Mr. Cecil M. Hepworth describes a method of making a pinhole that ought to be again brought forward, now that pinhole work is coming to the front. The process is as follows: Thin rolled copper is obtained from a dealer in electrical supplies and small strips dipped in very hot paraffin wax. Equal parts of paraffin and beeswax form an even better coating. The wax will cool almost instantly on removal of the copper; forming a thin, even coating. At the point where the hole is desired, touch the coating with the point of a needle, twirling it gently so as to pierce the wax and leave a small part of the metal bare. Next place the sheet of copper in a bath composed of one part of hydrochloric acid in three parts of water to which are added as many crystals of chlorate of potash as the liquid will take up. This will gradually eat into the metal where it has been laid bare by the point of the needle and result nearly always in a perfectly circular hole of a small size, which, however, will increase in aperture according to the time it is allowed to remain in the corrosive solution. A hole formed in this way is absolutely free from serrations or burr, and the edge of the aperture is thinned down by the solvent most uniformly and to such an extent that there is no danger of light reflection or degrading of the image through the lack of thinness of the metal around the hole. Of course, the exact size of the hole is not as easily determined as is the case where a needle of a certain size is used to perforate the metal, but comparison of the image formed by allowing light to pass through both the etched aperture and one made by the needle will make the determination of the size quite easy."—ED.]

THE "OPTICAL LANTERN JOURNAL" announces that owing to a continued falling off in its support, publication is suspended.



The following specifications of patents relating to photography have been published, and copies may be purchased at an uniform price of 8d., at the Patent Office, Sale Branch, 25, Southampton Buildings, London, W.C. The price of the specifications includes postage to any part of the United Kingdom. The additional postage to foreign countries is usually ½d. per specification. Postage stamps must not be sent on payment of any amount exceeding 11d. In ordering the name of the patentee and both the number and year of the patent must be given.

1902.

8,498.—Selle. Backgrounds for colour photographs.
12,514.—Selle. Apparatus for three-colour photography.
12,692.—Bennett and Barker. Plate washer.
16,071.—Ludwig. Daylight developing process.
17,477.—Reichert. Objectives.

1903.

11,255.—Gabriel. Finder.
11,931.—Hampp. Roller presses.

Modern English Art.

MANY of those who use Messrs. Marion and Co.'s plates and photographic materials are quite unaware that this forms but one part of the business that is carried on at 22 and 23, Soho Square. Art reproductions in various forms are published by them, and their latest venture in this direction surpasses in excellence anything of the sort we have previously seen. Reproductions in colours of well-known paintings have been many and various of late years, some good and some so bad that we can but wonder who purchases them.

The six paintings selected by Messrs. Marion and Co. as the first issue of the series they contemplate bringing out are well-known to most. "The Mirror of Venus" by Sir E. Burne-Jones, "The Hay Wain" by John Constable, "The Harbour of Refuge" and "The Vagrants" by F. Walker, "The Reaper and the Flowers" by P. R. Morris, and "Blossoms" by Albert Moore, make a good representative collection.

That photography enters into the process by which they are reproduced, and that they are printed in indelible ink, it is needless to say. They must be seen, however, before the extremely rich oil-like effect and their truth to the originals can be realised. In examining them at Soho Square we were struck by the fidelity of the general tones—a matter frequently absent in such reproductions.

Only a limited edition, we understand, is to be produced, and we should advise all lovers of paintings to take an early opportunity of judging the merits of these copies. "The Mirror of Venus," which is the largest of the series, is 24¾in. by 16in., and sells at £2 2s. on plate marked mounts. The others are a trifle smaller and sell at £1 1s. "The Hay Wain," for example, is 17¾in. by 12¼in.

MESSRS. ADAMS AND CO., of 26, Charing Cross Road, W.C., ask us to state that they regret that they have been unable to supply Videx cameras from stock. By the aid of new machinery and an increased staff, they are now fully equipped for all demands.

× × × ×

"A DAY UP THE RIVER" is the title of a well got up, fully illustrated, and nicely printed booklet produced, on behalf of the London and South Western Railway, by Mr. Thomas J. Foster, of 422, Birkbeck Bank Chambers, London, W.C. It is to be regretted that the photographs are not better in pictorial qualities—they are of the class usually associated with house agents' catalogues, and certainly do not make the river as alluring as they might.

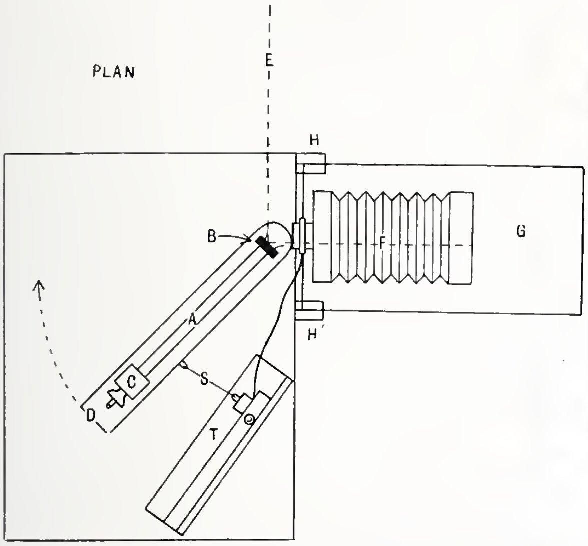
× × × ×

"PORTRAITURE FOR AMATEURS WITHOUT A STUDIO" is the title of two volumes, price one shilling each, by Rev. F. C. Lambert, M.A., just published by Messrs. Hazell, Watson and Viney. The first deals with the technical and the second with the pictorial aspect of the subject, nominally at least, although the matters dealt with therein are essentially matters of technique. The books are clearly written, and will appeal to a large class who will doubtless find them distinctly helpful.

Prof. Goodspeed's Method of Measuring Shutter Speeds.

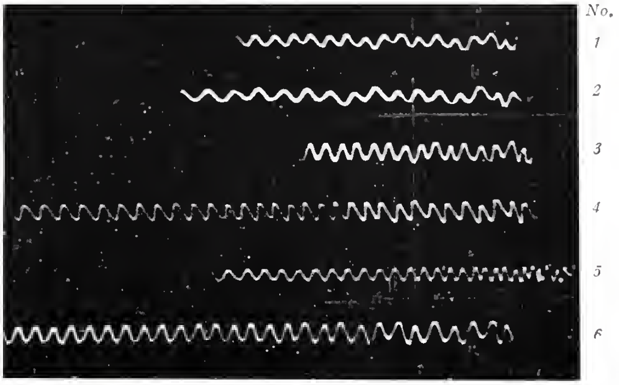
SOME experiments upon the determination of the true speeds of photographic shutters have recently been carried out in America at the instance of Professor Goodspeed by Mr. L. Balderson, jun., particulars of which he has just published, from which we abstract what follows.

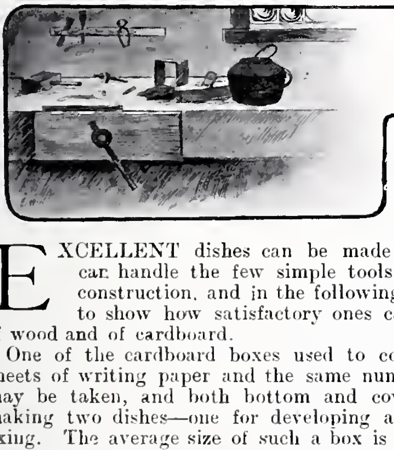
The arrangement employed is that shown in plan in the sketch below. The other illustration shows the actual results obtained from the apparatus and a Goerz Sector shutter, Nos. 1, 2, and 3 being exposures made with the shutter set at $\frac{1}{10}$, the other three at $\frac{1}{5}$. The last one ran off the edge of the plate. The irregularity of the earlier part of each curve is caused by the shock to the table, due to the springing of the trap.



A tuning fork A is attached to a block C, which is rigidly connected with the arm D. This arm is movable about a pivot directly under the mirror B. The fork is mounted so as to vibrate in a vertical plane, while the arm D is movable in a horizontal plane. A beam of light E from any brilliant source (preferably a hole one quarter inch in diameter directly in front of the condenser of an arc lantern at a distance of ten feet or more from the fork) falls upon the mirror and is reflected into the back focus camera F when the shutter is open. The camera is focussed so as to make an image of the source of light on the plate.

If, now, the shutter is held open, the fork set in vibration, and the arm D moved, a sine curve is traced across the plate. T is a trap actuated by a spring to press the bulb and release the shutter. The string S is attached to the movable arm and to the trigger of the trap (a loosely fitting plug), and is of such a length as to release the shutter at the instant when the beam of light is directed toward a point near the edge of the plate. The stage G, which carries the camera, is hinged by means of the uprights H H' to the table holding the other apparatus, the hinges being in line with the centre of the lens. The stage may thus be placed in several positions, and several exposures be made on one plate.





HOW TO MAKE PHOTOGRAPHIC DISHES.

By W. S. Standiford.

EXCELLENT dishes can be made by anyone who can handle the few simple tools needed for their construction, and in the following notes I propose to show how satisfactory ones can be made both of wood and of cardboard.

One of the cardboard boxes used to contain two dozen sheets of writing paper and the same number of envelopes may be taken, and both bottom and cover can be used, making two dishes—one for developing and the other for fixing. The average size of such a box is $5\frac{1}{4}$in. wide, $6\frac{3}{4}$in. long, and $1\frac{1}{4}$in. deep. We first take the lid off a cigar box, cut two pieces $\frac{1}{4}$in. wide and $6\frac{3}{4}$in. long, and glue them lengthwise in the cardboard box—each strip being 1in. from the sides. After this is dry, the entire dish is painted inside and out with asphaltum varnish or Brunswick black, and allowed to dry.

We next take a piece of white paper, 1in. square, and with pen and ink mark upon it the letter "D," pasting the paper on the side of the box. Half a pound of paraffin wax and half a pound of beeswax are melted in an old tin dish, poured into our dish, and then this is tilted so as to make the wax flow over the bottom and up the sides, getting it as near to the top as possible. Then a brush dipped in the melted wax is taken, and with it we finish waxing the inside, sides, and bottom. When cold it is ready for use, being unaffected by the usual acids and alkalies used in photography. Fig. 1 shows the dish finished, the strips "S S" being used to keep the plate from sticking to the bottom; they also strengthen the dish. The letter D on the side shows that the tray is to be used for developing. The letter paper box of the size indicated makes a most admirable dish for 5in. by 4in. negatives, or smaller ones, being compact and light.

To make a developing dish of wood we proceed as follows: Suppose it is desired to make a 7in. by 5in. dish. The first article needed is the wood. Selecting boards about $\frac{1}{4}$in. or $\frac{3}{8}$in. thick, and 5in. or 8in. wide, free from knots, they are smoothed off with a plane, or, if one is not handy, a piece of coarse sand-paper tacked round a piece of wood. After the roughness is taken off, two strips $1\frac{1}{4}$in. wide, $\frac{1}{4}$in. thick, and $5\frac{3}{4}$in. long are made. Also two more strips of wood the same thickness and width and 8in. long are cut.

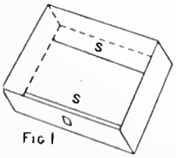


FIG 1

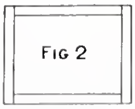


FIG 2

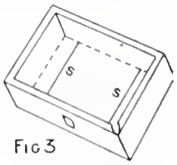


FIG 3

Taking the two 8in. strips and one of the $5\frac{3}{4}$in. strips,

HOW TO MAKE PHOTOGRAPHIC DISHES.

the latter is fastened across the top of the longer pieces, one on each end, by the aid of wire brads, and then the other strip is nailed across the other end. We then have a frame shaped like fig. 2. Next we cut a piece for the bottom of the dish $8\frac{1}{2}$in. long and $5\frac{3}{4}$in. wide. If a board of the correct width is not at hand, two narrow pieces of sufficient width to be level with the side to dish can be used. The bottom then is nailed on with the $\frac{3}{4}$in. brads, spacing them about $\frac{1}{2}$in. apart

Next with the knife we cut in one corner, on the inside of dish diagonal to the sides, a lip for pouring the solution out. Two narrow strips, $\frac{1}{4}$in. wide and $5\frac{1}{4}$in. long, are cut out of a cigar box lid, and glued on the bottom at a right angle to the sides, each strip being placed $1\frac{1}{2}$in. from the ends of the dish. Carpenter work being now finished, we proceed to mark the letter "D" on a piece of paper 1in. square, and glue it on the side. We also glue a piece of heavy writing paper on the bottom across the joint, if two boards have been used instead of one.

The dish has now to be coated with asphaltum varnish, top, bottom, and sides, and when dry, with the mixture of paraffin and beeswax, in the manner previously described. Fig. 3 shows the finished dish.

These articles, if carefully made, will last many years, and give good satisfaction. A fixing dish may be made to hold six or twelve negatives.

Those living in tropical climates will find it best to use the following composition instead of the wax. This cement will be found to be waterproof. The ingredients should be mixed as needed, as it hardens very rapidly. Litharge finely powdered is put into glycerine to make a semi-liquid paste; the two are mixed thoroughly and poured into the bottom of the dish, levelling it with a piece of cardboard bent into an L shape. The piece is greased with oil or vaseline to prevent it from sticking. When the bottom is hard, the sides are coated in the same way, and when the cement is thoroughly dry a couple of coats of asphaltum varnish are given. After that has set, the dish is well washed, putting in a pinch of washing soda with the first wash water to get rid of the grease. It is not necessary to put the cement on the outside, the varnish being sufficient to keep it from rotting.—*Camera Craft*

A New Method of Mounting Prints Dry. By Bernard C. Roloff.

NOT one of the least causes of faded and spotted prints is that of careless pasting. It is well known that many of the commercial pastes have a decidedly deteriorating effect on prints, especially on those which have been mounted for some time. In such cases the cause of the spots and fading which follows is charged to insufficient washing or fixing, or both. This supposition is often true, as many amateurs are very delinquent in this regard, but it is a fact that very often the fault lies in the pasting method alone.

Taking it all in all, the common form of pasting, as followed by most amateurs, is, at its best, a messy affair, and a method which does away with this trouble for one thing, and is very easily carried out, besides being such as to prevent fading from the cause of impurity for another, should be hailed with delight by the thousands of amateur photographers who have been bothered by this problem. Another advantage of the following idea is its cheapness and the ease with which the material is made in small or large quantities.

To make a small quantity of the liquid, it is necessary to place an ounce, say, of white shellac in a small wide mouthed bottle, and to pour over it several ounces of alcohol. The alcohol will of itself dissolve the shellac, but it is advisable to stand the bottle in a pan of water, which should be slowly heated until the shellac is all dissolved, as it would take twenty-four hours to dissolve cold. Should the solution be too thick to flow easily off a brush, slightly more alcohol should be added until it is possible to smear the backs of prints without danger of tackiness. The shellac dissolved, the bottle should be labelled and tightly corked, as the alcohol will evaporate very quickly and the solution become too thick.

When it is desired to mount a number of prints, a one or two inch bristle paste brush should be provided and the solution smeared thinly over the back of each print, which is then immediately laid aside to dry. Yes, they are *dried before* mounting, and not, as some of my readers might suppose, immediately placed on to the mount. After the whole batch has been properly covered with the paste, and the first print is dry, the mounts should be gathered in a heap and the first print held firmly in place on its mount. A piece of clean cloth should cover the print and mount, and it is only necessary to heat a flat-iron to a degree which can just be borne by the bare hand, running it over the print several times back and forth, and the pasting is complete. The rest of the dried prints can now be pasted in the same way and all finished in a surprisingly short length of time.

The warm iron has the effect of melting the shellac, which then adheres to the mount, and the print will be found perfectly pasted without wrinkles, buckling, paste on the face, or any of the numerous defects of a print mounted in the old way.

It will be found to be exceedingly easy to mount several dozen prints in the time it usually takes to mount one dozen, the pasting being entirely uniform and the print perfectly flat.

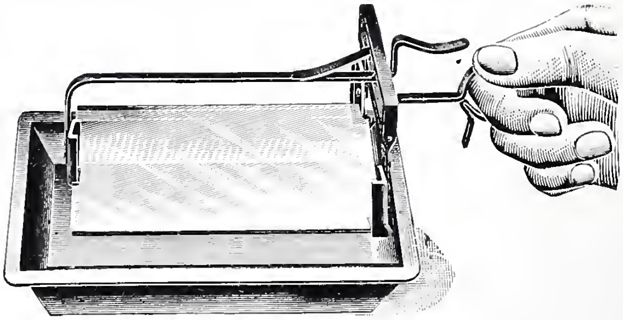
At the present time more attention is being given to artistic mounting than ever before, and the craze is for thin, suitably shaded mounting papers of a large size, the prints often being bordered by narrow margins of other colours, and as these are best mounted one upon the other sometimes at the corners only, it is well to call attention to the fact that the above style of pasting is just as applicable to the new method of mounting, it only being necessary to touch each corner and set them aside to dry as first described, the final treatment being the same. Anyone taking up pasting in this manner will be agreeably surprised with the ease, neatness, and despatch with which a large number of prints may be handled. *(The American Amateur Photographer.)*

A New Form of Holder for Developing Plates. The "Perfecta."

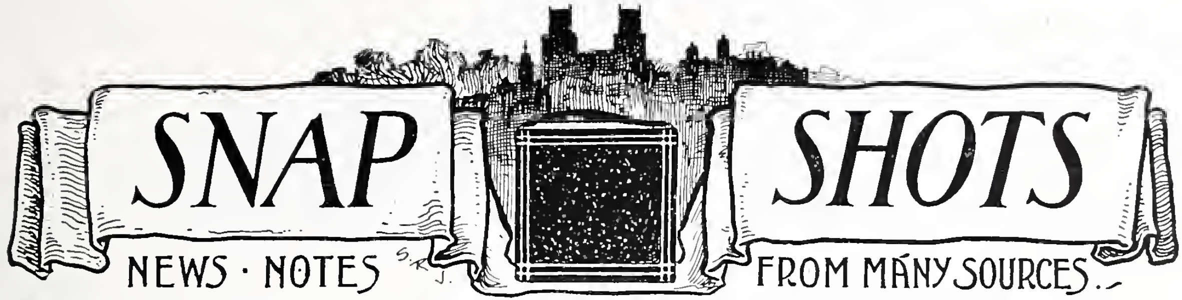
THE ingenuity of the inventors of photographic appliances has been largely devoted of late to apparatus for the simplification of development and ease in manipulation. The plate holder, shown in our illustration, and placed upon the market by Mr. W. Tylar, of 48, High Street, Aston, Birmingham, is singularly neat and well thought out, and will be welcomed by all who desire to keep their fingers free from developer stains.

The apparatus is made of steel, with celluloid clips to hold the plates, so that the metal parts need never be immersed in the solutions. By pressing with the thumb upon the projecting lever the clips are drawn apart, permitting the plate to be slipped into the catches with perfect ease. On releasing the lever the clips are brought together, and as the plate is clipped at the sides, as also at the ends, there is no possibility of it slipping out, no matter in what position it is held.

It will be seen that not only are the fingers protected from stain, but what is of at least equal importance, the plate is not subjected to the heat of the hand, and frilling and other troubles are avoided. The "Perfecta" is one of the most useful little contrivances we have seen, and



should find a place in every dark room. The prices are for quarter-plate 1s., for 5 by 4 plates 1s. 3d., and for half-plates 1s. 6d.



SNAP SHOTS

NEWS · NOTES FROM MANY SOURCES

MR. GEORGE H. DEPLEDGE, honorary secretary of the Cripplegate Institute, desires us to state that his address is now 17, Hazeldene Road, Goodmayes, Chadwell, Essex.

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THE SOMERSET POSTAL PHOTOGRAPHIC CLUB, which is limited to thirty members, has several vacancies for good workers. Particulars can be obtained from the honorary secretary, Mr. Bernard J. Mitchell, of 3, Willow Vale, Frome. The club year ends in September.

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ONE OF THE FOUNDERS of the Southsea Amateur Photographic Society—Dr. Frederick Lord—has just died at Southsea at the age of fifty-three. For the last twenty-five years Dr. Lord had a practice at Portsmouth, and for a long period had taken a great interest in photography generally.

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THE WATFORD CAMERA CLUB is to hold its first annual exhibition on October 7th and 8th at the Corn Exchange. There are five open and five members' classes, full particulars of which can be obtained on application to the honorary secretary, Mr. Frank Roberts, at Winslade, Cassio Road, Watford.

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A VERY COMPLETE and handily arranged catalogue of photographic goods is that issued by Mr. J. Henderson, of 164, Union Street, Aberdeen. Cameras and other apparatus of the latest design find places in its pages. Our readers in Aberdeen and the district should make a point of securing copies.

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THE WATFORD PHOTO-UNION has postponed its exhibition until January 8th and 9th next to avoid clashing with that of the Camera Club. There will be a special class for members who are beginners, and a loan collection. Full particulars can be obtained from the honorary secretary, Mr. Ashcroft, Bushey Hall Road, Watford.

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A HANDSOME AND COMPLETE CATALOGUE has just been issued by Messrs. L. Trapp and Co., of 29, Budge Row, Cannon Street, London, E.C. This well-known wholesale and export photographic house was established nearly forty years ago, but, from looking over its latest list as well as from other indications, is still well to the fore. The catalogue will be sent free to any photographer on application.

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THE FOURTH ANNUAL SALON of the Chicago Society of Amateur Photographers will be held in the Art Institute, Chicago, Illinois, from December 29th to January 24th inclusive, 1903-4. The jury is composed of Dr. F. Detlefsen, Mr. J. H. Field, Mr. Louis A. Lamb, Mr. F. Dundas Todd, and Mr. Marshall Waite. All pictures submitted must reach the Art Institute on or before December 15th, 1903. Full particulars can be obtained from the Chicago Society of Amateur Photographers, the Art Institute, Chicago.

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THE SOUTHSEA, HOVE, AND SOUTHAMPTON Photographic Societies have arranged to hold their exhibitions in order as follows: Southsea, November 18th to 25th; Hove, December 2nd to 5th; Southampton, December 11th to 19th. Specially designed plaques will be awarded in place of medals at all three. Full particulars can be obtained from the honorary secretaries of the societies: Southsea, Mr. F. J. Mortimer, Pembroke Road, Portsmouth; Hove, Mr. A. R. Sargeant, 55, The Drive, Hove; and Southampton, Mr. S. G. Kimber, Oakdene, Highfields, Southampton.

DEMONSTRATIONS OF THE PRODUCTS of Messrs. Butcher and Son and Messrs. Wellington and Ward are to be given during the coming winter by Mr. W. F. Slater.

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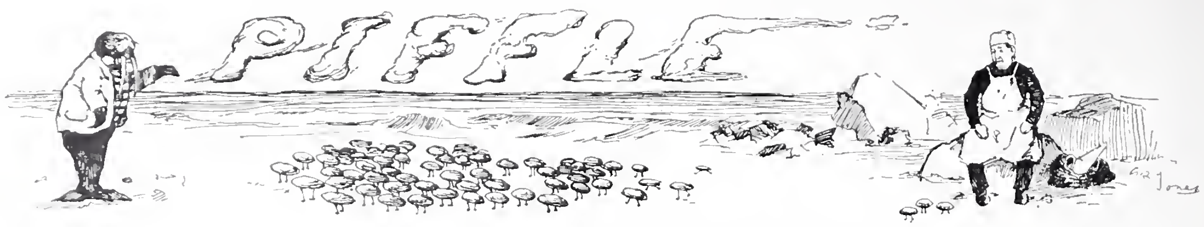
THE FIRST CONTINENTAL EXCURSION of the Catford and Forest Hill Photographic Society was to Ostend and Bruges, under the leadership of Mr. Norman Wolters. It extended from the 1st to the 4th inst., and the members were favoured with good weather. Visits were made to Parc Leopold, the Belfry of Bruges, Quai Rosaire, the Ramparts, and other places of interest. The prints resulting from the excursion will occupy a prominent position in the exhibition and conversazione, to be held later in the year. Mr. Wolters offers silver and bronze medals for the best sets of lantern slides in connection with the excursion.

Evening shadows, Alston (see p. 134). *By W. Percy Mau*



"The time has come, the Walrus said, to talk of many things."

PINHOLES in negatives are so called because they are nothing to do with pins, and pinhole apertures receive their name from the fact that they are made with needles. There has been lately a revival of interest in stenopaic photography, which is the classy name for work done by means of a pinhole instead of a lens. One or two enthusiasts who have awakened suddenly to the fact that you can get clearly defined pictures by this means have rashly exchanged their best anastigmats for a little piece of brass with a tiny hole in it. They are now looking around for someone to kick them.

* * *

For some time past I have been by slow but sure stages falling in love with cameras of the reflex type. Not but what I have had such cameras in my time, but they have proved to me "apples of Sodom and ropes of sand."

* * *

One I can remember well, and I can only hope for the sake of my fellowmen that it has been long since cremated. The ground-glass on which the image was reflected was, in the maker's opinion, sufficiently shaded from extraneous light by a single flap. With much labour, glue and cloth, and a liberal lubrication of lurid language, I made a hood, which would never fold down till I sat on it, and then it would not come up again, except under the persuasive influence of a crowbar. To peer into the aperture of this hood I had to bury my face in it, and when I made an exposure it always smote me grievously on the bridge of the nose, so that even the broadest sunlight was illuminated for some minutes by a first-rate stellar display. Moreover, the combined noise of mirror and shutter used to send people scooting for shelter under the impression that I was an anarchist with an infernal machine that had prematurely exploded. So I had to sell the thing for only a sovereign or so more than I had given for it.

* * *

Another reflex camera that might have suited me better was afterwards submitted for my admiration, but it had the drawback that I could not lift it unaided, and even if I could have got it home I do not think it would have gone through any door in the house. I believe it was afterwards used as a seaside camera obscura to accommodate parties of not more than twelve.

* * *

Imagine then my feelings of delight on reading the specification of the new Videx camera. It is the embodiment of my ideal; the incarnation of my dreams. Every day now I read the description of it until my eyes stand out on stalks, like a snail's, with envy. Surely, I think, this is at last the camera for which I have longed and waited, and waited long. Other cameras have been only the best. This is better. But no sooner have I formed this conclusion than I peruse an account of an American camera, and instantly my certainty becomes again mere wavering indecision.

* * *

This American camera "is a product of head, heart, and hand; its advantages grow more endearing and necessary, as it is comprehended and understood. The multitude of peculiar, distinctive, and individual features of this camera are not duplicated nor equalled in any photographic apparatus on earth. Its reception and praise throughout the civilised world is a glaring bit of history that is unparalleled by the makers of photographic apparatus since 1775."

* * *

Phew, it's very hot!

* * *

Of course, a just comparison of the two instruments is difficult, because the description of one is in English and of the other in American; and when, further, the prices are quoted in one case in pounds and the other in dollars, I am reduced to a state verging on gibbering idiocy.

* * *

Sweet are the uses of diversity. What a flat, stale, and unprofitable world this would be without matter for debate and contention. Argument is one of our choicest possessions. You know a man that you are simply dying to smite, yet you cannot smite him without cause. Start an argument with him on plates *versus* films, and in five minutes it becomes an act of sheer righteousness to fell him to the earth. Without argument at our disposal the flat-iron would fall into desuetude as a missile, and the shillelah would become obsolete.

* * *

A.S.S.—No, I do *not* advise you to plant Seed plates in expectation of raising a crop of negatives; but I *do* advise you to seek medical advice.

* * *

The annual terror of the exhibitions will soon be upon us, and it behoves all those who are thinking of honouring the more important shows with an example of their work to begin at once to collect materials for mounts. Don't worry about the prints.

* * *

Take care of the mounts and the prints will take care of themselves.

* * *

The following advice may be found most useful. Carefully store up all wrappings of parcels, old sheets of blotting paper (especially red pieces), sugar papers, butter wrappings, canvas, odds and ends from the rag-bag, etc. Sort it into two lots—those that harmonise, and those that don't. Use only the latter. Don't cut the edges, but tear them. Use as many pieces as you can, and stick them down by one corner only. It is advisable to stick on a print of some sort, or at any rate a piece of a print; and don't forget to put your monogram on top of a long shaky stalk drawn with white paint. Mark it "Not for Competition" to account for its not getting a medal, and run the price into three figures to let people know what it is worth. Call it a "study" to show that you didn't really try, and whatever you do stick in a Greek quotation. It makes the catalogue look nice, and the compositors like it.

* * *

When my learned contemporary "The View-finder" recently spoke with heroic disrespect of artists and their work I trembled at his temerity, and feared that his ramblings amongst societies would be brought to an untimely and gory end. Not only does he still survive, however, but I have since come across one of the alleged weaker sex who ventured to speak with trenchant tongue of the fraternity of the palette. It has been for many years her business to board and lodge representatives of the dauby art, and her verdict was that "These 'ere artisses do give theirselves such hairs." My first impression was that she referred to their well-known neglect of the services of the tonsorial artist, but her subsequent observations enlightened me. With these two examples of fearless criticism before me I feel almost emboldened to have a cut at the "hairs" of the "artisses" myself one of these days.

THE WALRUS.

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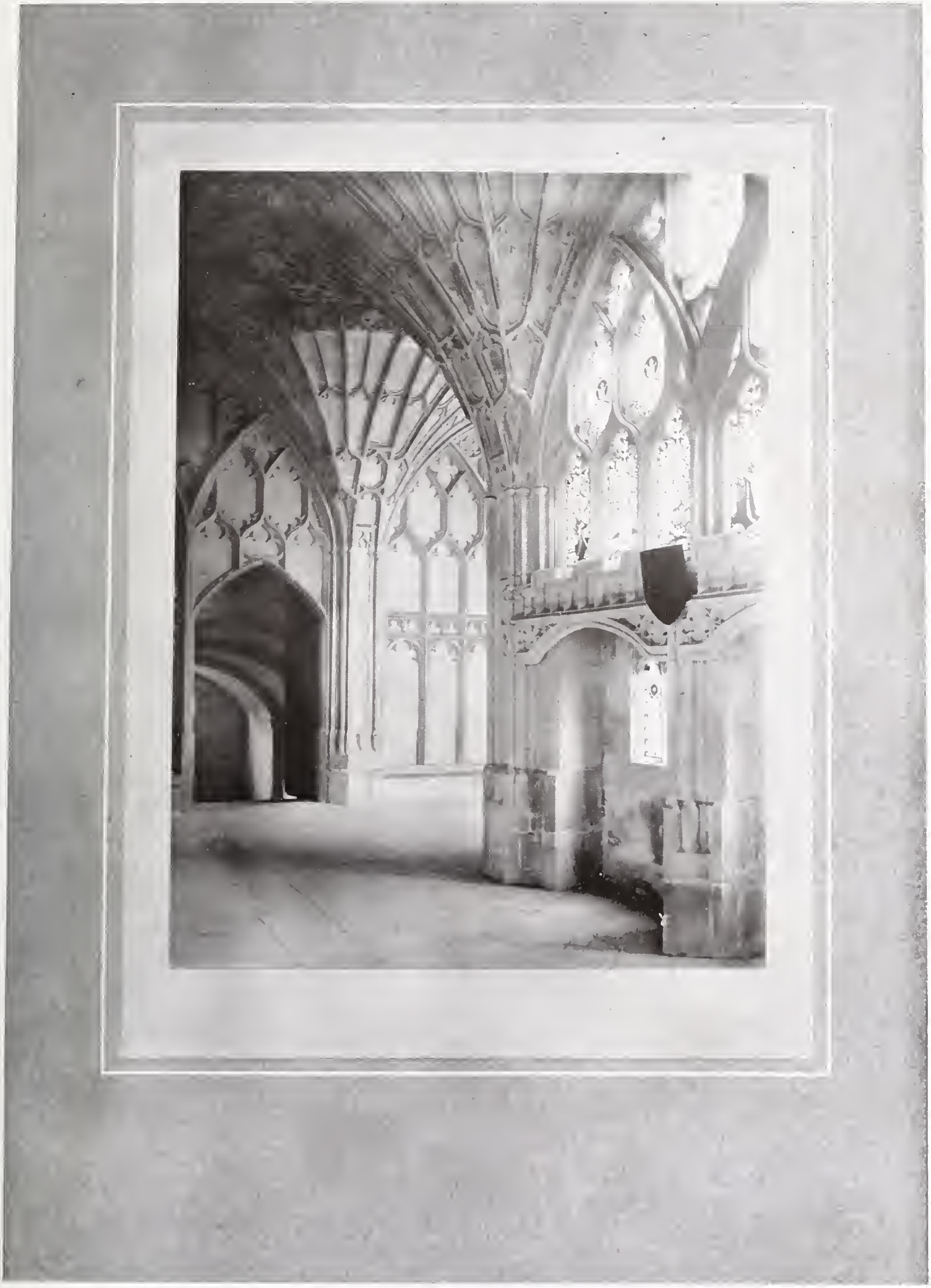


GLOUCESTER CATHEDRAL CLOISTERS, FROM THE SOUTH INTO THE WEST ALLEY (SEE PAGE 162). BY F. H. EVANS

Lourdes. The Basilica Church above the grotto.

Notes of a Pilgrimage to Lourdes. By G. E. Thompson.

SPECIAL TO "PHOTOGRAPHY."

LOURDES is now one of the most famous towns in France. The view from the window of our hotel would be hard to beat. Below, the river courses along, high hills mounting upwards from the further bank, extending away in all colours from green to purple. The tall graceful spire of a modern marble church rises against the highest hill, and immediately below it there is the Sacred Cave which attracts so many thousands of visitors in an almost ceaseless stream.

The story of the rise of modern Lourdes is well known, but for those who are unacquainted with it I will endeavour briefly to sketch the outlines.

It was in the year 1858, on February 11th, that a girl, aged fourteen, named Bernadette Subirous, while gathering wood along the river bank, came to the entrance of the grotto, then half hidden by the brambles. There she was greatly startled by the sudden appearance of a dazzlingly bright light. The story soon spread, and grew with the spreading. The white light assumed a human form. On being questioned she seemed to perceive a lady, whom she described as having eyes blue and mild, mouth rosy and smiling; a veil falling to her heels half hid her fair hair, and on her feet of virgin snow flowered two golden roses. Many times the child visited the grotto, and many times the vision appeared, the last appearance being on July 16th. During one visit to the grotto, Bernadette was told to go to the priests and tell them "that they must build a chapel here." On another occasion the lady told her to "go and drink and wash at the spring, and eat the grass that is beside it." In the depth of the grotto a spring suddenly sprang up at her touch, and the water has ever since continued to flow. There were eighteen apparitions in all. Other words were spoken by the lady, but enough has been said to explain the origin of the Sacred Grotto.

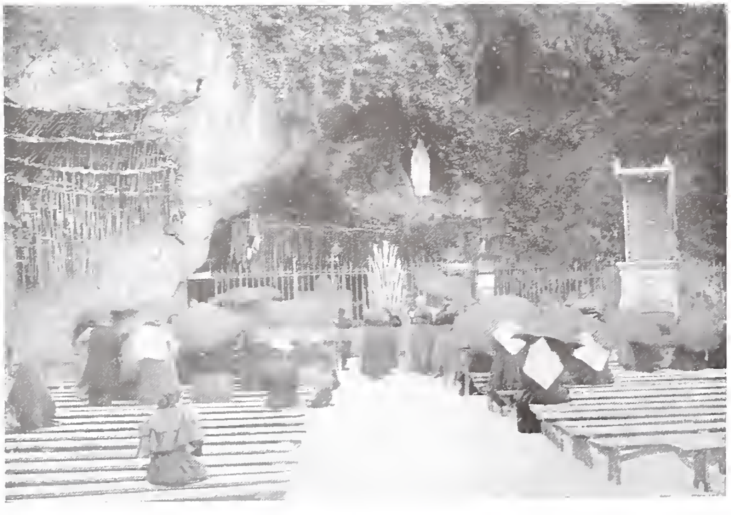
Lourdes is distinctly divided into two towns. The quiet, sleepy, narrow streets of the old town lie east of the castle that stands boldly on a hill top commanding four valleys. Within the last half century a new Lourdes has arisen, spreading itself out westward of the castle along the banks of the Gave. There are no signs of decay here. All is bustle, feverish excitement, and religious zeal. Two hundred thousand pilgrims flock hither annually, and the number has been known to reach the overwhelming total of half a million.

The new town is a mass of hotels and lodging houses, with a great number of shops, mostly displaying the same class of goods. There are statues of the Virgin, from life size down to six inches, crucifixes, saints, candles, and photographs. There are quantities of cheap and pretty jewellery, brooches, penholders, etc., all marked with a monogram, or with "Notre Dame de Lourdes."

A modern bridge spans the river, while the lonely castle, basking in the sunshine, crowns the hill above. Walking along the river bank, we made for the tall graceful spire of the Basilica, the church lately built on the rock above the grotto. A long procession of pilgrims was slowly winding up the road, chanting as they came along. We pushed on for the grotto.

In former times, before it become famous, the river flowed close past its entrance, which was partly obscured by brambles and creepers. But this was soon altered, and now we approach it by a wide carriage road; the course of the river has been diverted.

The piazza in front of the cave is crowded with seats for the worshippers, iron rails enclose the grotto, and a covered pulpit stands outside. Ivy and shrubs drape the rocks above, hanging over the mouth of the cave, and on a ledge of rock within the interior stands a marble statue of the



Lourdes. The grotto.

Virgin, on the spot where she appeared to Bernadette. Within the dark recess of the cave the water streams forth, to be conducted in pipes to the baths and the many taps where the pilgrims come to drink, or to fill their cans to take home with them to far away villages in France.

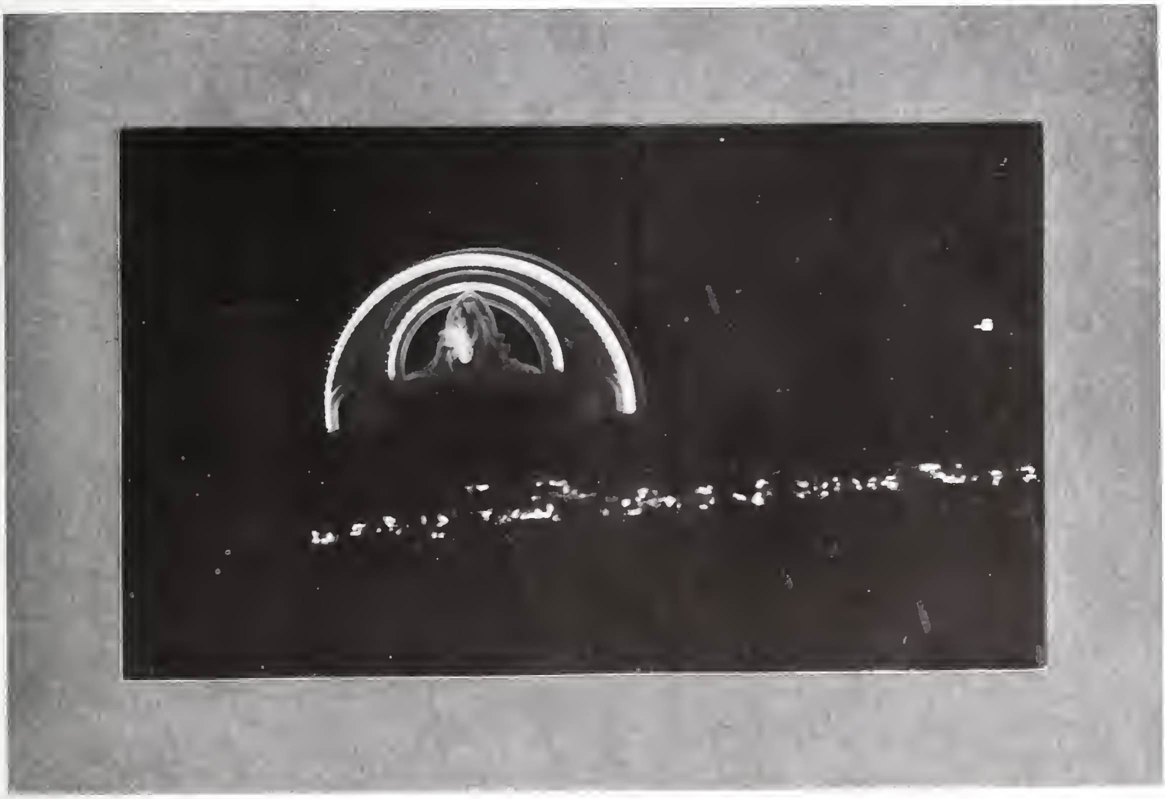
The air within the cavern is quite warm with the burning of numerous candles, two hundred of which are often lighted at one time. From the roof, and also on the face of the rock outside, hundreds of crutches and other discarded instruments hang. These have been left by the grateful pilgrims who have been cured of their lameness by visiting the grotto and by drinking the water, and so no longer have any use for them. The air is so damp that the crutches rapidly decay, and they are replaced by new ones every two years.

The long procession of pilgrims was approaching slowly from the town. They walked up through the park-like space leading to the churches and all knelt down in the great piazza in front of the Rosary Chapel. It was an imposing sight; I was reminded of the great piazza in front of St. Peter's in Rome. There the semi-circular colonnades embrace the great space; here there are great stone terraced inclines, branching off on either side of the wide steps leading to the chapel and extending round in semi-circles as though to embrace the vast concourse. From the piazza the procession slowly wound up the roadway beyond the inclines, which also lead to the Basilica church, where services are held many times during the day.

A promenade extends round the domed roof of the Rosary Chapel, and at its back there is the entrance to the crypt, which is underneath the Basilica. This place contains a double row of confessionals. To quote Zola: "It is here, in the lifeless tranquility of the bowels of the earth, that sins are confessed; here are priests, speaking every tongue, to absolve the sinners who come from all the four corners of the world."

Lourdes. The castle.

We explored the silent passage of the crypt, and, returning to daylight, mounted still higher by flights of steps until we stood at the door of the Basilica. To give the remotest idea of the magnificence of its interior is beyond me. Photography is not allowed within it, and the mind fails to grasp the countless beauties amongst its carvings and glittering metal work. I suppose that one of the finest churches in Europe is the Certosa of Pavia, where a series of small chapels contains a marvellous collection of carved altars and precious marbles. Here, in the Basilica, I was reminded of that church or monastery, for a Gothic pointed passage ran round, passing through many small side chapels, each containing exquisite statuary and altars.



Torchlight procession at the entrance of the Rosary Chapel.

Writing of the many nations who send pilgrims to Lourdes, the same author says: "With the autumn comes the rain, those diluvial torrents which beat against the grotto entrance for days together; and with them arrive pilgrims from remote countries, small, silent, and ecstatic bands of Indians, Malays, and even of Chinese, who fell upon their knees in the mud at a sign from the missionaries accompanying them."

In the dusk of the evening when the church was lighted up, when hundreds of lamps and candles burned in the choir, all reflected on the surfaces of the countless gold and silver hearts, and lighting up the golden screen, the building almost seemed to be on fire. Priests in gorgeous vestments conducted service before a crowded congregation burning with a fervour and zeal that had brought vast numbers of the maimed, halt, and dying, by long and painful journeys, hoping to obtain aid and healing at the Sacred Grotto and within this church. Banners by the hundred hang from the lofty roof; banners worked and brought from far away by the great ones of nations to the once obscure city of Lourdes.

Entrance to Rosary Chapel lit up by electric lights (the rosary held by the child is a chain of electric lights).

But all this pomp and grandeur has another side, and small wonder is it if the people of Lourdes who live in the crowded streets on the other side of the ancient castle feel a soreness beyond healing. Leave all this magnificence, pass the foot of the steep castle-rock, pass the old church on the other side, and wander down a side street, which is that of a quiet provincial French town, you come to what at first sight appears to be the ruins of an ancient abbey. The double row of pillars down the great nave stand with their polished marble surfaces boarded round. The building is roofless; nettles and creepers grow in rank profusion, and the women living near use the place as a drying ground for clothes. Fowls strut and scratch about, and the wind howls through the empty window arches. The guide beckons you on, and, taking you down dark steps, opens the door of the crypt under the chancel. Cobwebs hang from the roof, and damp walls tell of the moisture which oozes through from the neglected ruin overhead. In the deep embrasure of a window between the massive pillars, on a pedestal, and facing an altar tomb, stands the beautiful but melancholy statue of a saint. He holds a book in one hand, while he seems to direct your gaze towards the neglected, mildewed grave a few feet away.

What does it all mean? It is the obverse side of the medal! It explains the life and premature death of the good and beloved Cure of Lourdes, the Cure Peyramle, the man who loved his people and children in old Lourdes, and who essayed to build a church wherein the townsfolk might gather and worship, but who was hounded and harassed by the fathers of the grotto till he was stricken down and died. Read the inscriptions on the tomb.

"This tomb has been erected by the aid of pious offerings from the entire universe to the blessed memory of the great servant of our Lady of Lourdes."

On the right side are the words from a brief of Pope Pius IX.: "You have entirely devoted yourself to erecting a temple to the mother of God." On the left are these words: "Happy are they who suffer persecution for justice sake."

Verily there are sermons in stones, and this altar illustrates one of them.

SNAP SHOTS

NEWS · NOTES FROM MANY SOURCES.

MR. FELLOWS WILLSON's lease at 141, New Bond Street, W., having terminated, he is about to remove to new premises. His temporary address is 13, George Street, Hanover Square, W.

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PAPER V. GLASS FOR ENLARGEMENTS. The following are the reasons for using paper negatives for carbon enlargements, given by M. Bellieni in *Le Photo Midi*: (1.) It is more economical. (2.) The negatives are less fragile. (3.) Retouching is much easier.

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A LITTLE NIPPER CAMERA was offered by Messrs. P. and A. Robertson, of Swansea, to each boy who competed in the walk to Sketty and back, a distance of six miles. The distance was completed by the winner in 51m. 10s. Four additional prizes were given to the leading competitors.

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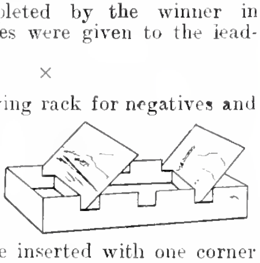
A SIMPLE DRYING RACK. A drying rack for negatives and lantern plates can be very quickly improvised from a box lid. Rectangular slits are cut in the cardboard on each side to hold as many plates as are required. If a deeper box than a plate be used the negatives can be inserted with one corner downwards, so facilitating drainage.—X.Y.Z.



A LIST OF ILLUSTRATED LECTURES, which he is prepared to deliver before photographic societies and others, has been sent to us by Mr. Leslie Stewart, of the Cottage, Hythe, Kent. One upon photography in warfare should be interesting. Mr. Stewart claims to include in it "the only photograph of the guns in action at the battle of Colenso," but two of this subject were reproduced in *Photography* a couple of years ago. His other subjects are equally attractive, although less strictly photographic.

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ALTHOUGH UNAL IS NOT ACTUALLY A NEW DEVELOPER, but only a modification of rodinal, it perhaps deserves some comment on its introduction, as rodinal—the prototype—is of such importance to bromide paper workers and those who photograph in hot climates. Herr Siebenstern describes his experiences with it in *Lechner's Mitteilungen*, and remarks that very concentrated solutions can be prepared with it, with caustic alkalies. Now caustic alkalies are the last things one wants to use in hot climates, and therefore a more dilute solution with the carbonates would be desirable. Notwithstanding the caustic nature of rodinal, it seems to give excellent blacks with bromide paper, whilst any such developer as hydroquinone would inevitably give browns. In cases of over-exposure bromide is necessary, but unal is not so easily influenced by it as are the majority of developers. The author states that unal and hydroquinone work well together, giving negatives full of vigour and contrast.

NO. 1 OF THE *Photogram* "Penny Pamphlets on Photography" deals with "Halation: Its Prevention and Cure." If no new methods of prevention or cure are suggested, those given have the merit of age and general acceptance to warrant their inclusion.

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MR. HENRY F. PURSER INFORMS US that from the 17th inst. his business and his agencies for the Rathenower Optische Industrie-Anstalt (late Emil Busch), the Busch Camera Co., and the Wollensak Optical Co. will be carried on at 35, Charles Street, Hatton Garden, to which address he has removed from 31, Hatton Garden. The manufacturing of cameras hitherto carried on at Bowling Green Walk, Hoxton, will also be transferred to the new premises.

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THE PARTNERSHIP hitherto existing between Charles Henry Watson and Charles Havers, as trustees of the will of the late Thomas Parsons Watson, trading as Watson and Sons, of 313, High Holborn, has been dissolved by mutual consent as from June 28th. All debts due to and owing by the firm will be received and paid by Charles Henry Watson and Frederick William Watson Baker, by whom the business will be carried on under the style of W. Watson and Sons.

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THE EXISTENCE of a syndicate of German photographic paper makers has been brought to light by the arrest of a company director. Commenting upon this the Dresden *Anzeiger* says that agreements of the sort have been in existence for some years. The Dresden paper says it was in possession of exact knowledge of the facts and figures some months ago, but was compelled to withhold them in the interests of the photographic paper works and in order not to be excluded from the meetings of the syndicate.

IN THE AUSTIN-EDWARDS film negative competition for the current month the camera has been awarded to Mr. P. O. R. Heley.

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THE CATALOGUE OF SECOND-HAND and shop-soiled photographic goods issued by the Tella Camera Co., of 110, Shaftesbury Avenue, W., contains some thirty pages descriptive of goods actually in stock at the time it was made up. The list is a long and varied one, and those of our readers who are on the lookout for bargains should make a point of securing a copy.

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A SERIES OF PLATINOTYPE PHOTOGRAPHS, illustrating scenes and events in the Darwen district during the Coronation festivities, was presented to the Mayor for the benefit of the town by the Darwen Amateur Photographic Association. Alderman Shorrock made the presentation, and the Mayor, in acknowledging the gift, spoke of the value it would be as a nucleus for a permanent collection.

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A RELIABLE TEST FOR HYPO is at all times a desirable adjunct to the dark room, and in putting the "Bertha" hypo test upon the market in a convenient form the Vanguard Co., of Maidenhead, have added one more to their useful preparations. The method of using is simplicity itself. A little of the last washing water from the prints or negatives is drained into a test tube or wine glass, and a few drops of the solution are added. If in a minute or two the water changes from a rosy tint to a dirty yellow, it is clear that hypo is still present. If, on the contrary, the colour remains unchanged the washing has been sufficient. From the appearance and action of the solution it would seem to be our old friend potassium permanganate and carbonate made up to a convenient strength.

"CARBON PHOTOGRAPHY MADE EASY." By Thomas Illingworth.

THE growth in popularity of the carbon process is a matter we have referred to on another page this week, and is one which will certainly be encouraged by the very complete, concise, and clear handbook just published by Mr. Thomas Illingworth. It is one which can be heartily commended to our readers as containing all that it is necessary to know on the subject.

It must not be supposed from the fact that Messrs. Illingworth are manufacturers of carbon tissues that the book is a glorification of their products, excellent as we know them to be. Mr. Illingworth is a Yorkshireman, and puts the matter with Yorkshire bluntness in his preface, which, as we have never seen anything like it before, we take the liberty of quoting. He says: "I would add a few words on a matter of business. As my readers doubtless know, I am a manufacturer of carbon tissues, transfer papers, and all materials for the process. In common with most Englishmen, I strongly object to read a book full of references to and puffs of the goods of some particular maker. I have therefore carefully abstained from doing so in my own case, and the reader can go through from the beginning of Chapter I. to the end of Chapter XII. without fear of encountering references to Illingworth's this or Illingworth's that. I prefer instead to say here once for all that the materials are those made by my firm—Thomas Illingworth and Co., Ltd., of Willesden Junction, London, N.W.—from whom they can be obtained at prices which are given amongst the advertisements at the end of the work. The greater part of the book is necessarily of a general character, and applicable to any of the excellent products on the market, but when a statement is made which is necessarily limited to some particular make, the make referred to is that of my firm."

A plain, straightforward statement of this sort is what we should like to see in a good many pamphlets, which are little more than disguised puffs.

The gum-bichromate and ozotype processes are touched on in the book, and such eminently useful topics as the printing in of clouds and backgrounds, retouching, spotting, making carbon transparencies, etc., are fully dealt with. There is a refreshing absence of the theoretical as opposed to the practical in this work, but at the end the two concluding chapters deal with the chemistry of the carbon process, and with its history, and give a list of books upon it which serve to make the work complete.

No photographer whose ambition it is to produce the highest class of photographic pictures should be without this excellent treatise on the most beautiful of photographic processes. It can be obtained—price 1s. net, or post free 1s. 2d.—from Messrs. Iliffe and Sons Limited, of 3, St. Bride Street, London, E.C., or Messrs. Thomas Illingworth and Co., of Willesden Junction, London, N.W.

Correspondence.

PROTECTION FOR PHOTOGRAPHIC MANUFACTURES.

Sir,—The question raised by Mr. Arthur Crowe in your last issue is scarcely one of practical politics, since no statesman would contemplate an import duty of forty times the value of the article. The import duty of forty-five per cent. was suggested by a "Would-be Martyr," and it was such a duty that I had in view. Now I think it is obvious that whilst pyro might rise from a shilling to one and sixpence per ounce without any great disturbance of trade, it would not necessarily rise from one shilling to forty-one shillings per ounce. On the other hand, if an import duty of forty times the value was placed on platinum it is quite certain that platinum would rise forty times in value. The buyer would be compelled to pay the price or go without platinum. In 1852 pyro was sold at £1 10s. per ounce, by 1876 it was reduced to 2s. 6d. per ounce, and since that time German competition has brought it down to a shilling. If British manufacturers could not make pyro cheaper than they did in 1852 the price would rise to £1 10s. an ounce. If they can make it to sell at 2s. 6d. per ounce, and no cheaper, then the withdrawal of German pyro would send the price up to 2s. 6d. So far as I am aware, the production of pyro in this country is confined to one or two firms; consequently, the sudden withdrawal of the German product might be followed by a scarcity that would amount to a famine, and the price rise until it reached forty-one shillings an ounce, when German pyro would again enter into competition. With pyro this scarcity is not likely to happen, but this does not alter the fact, as seen in the case of platinum, that articles tend to rise in value by the amount of a duty.

JOHN A. RANDALL.

A number of letters are unavoidably held over this week.—Ed.

The Proposed Absorption of Ilford in the Eastman Kodak Co.

Report of the Committee of Shareholders appointed June 25th, 1903.

We commenced our enquiries immediately after our appointment, and have met many times, sitting for several hours on each occasion, all members being present at every meeting. We have interviewed all the directors willing to attend, and have received replies to our written questions from the others. We have had the benefit of Mr. Crisp's assistance, representing Messrs. Ashurst, Morris, and Crisp, the solicitors to the company. We have also interviewed Mr. Clarke, of Turquand, Youngs, Bishop, and Clarke (the auditors of the company), and have received from them a full report upon the accounts of the Eastman Kodak Company's balance sheet as compared with that of our own company. We have also interviewed several gentlemen representing different sections of the English photographic trade.

Messrs. Abbott and Davison, representatives of the Eastman Kodak Company, having expressed a desire to meet your committee, we invited them to attend one of our meetings, and the whole position was then exhaustively discussed, Mr. Abbott undertaking to report your committee's views to the Eastman Kodak Company's board. Mr. Abbott wrote on 6th August, 1903, stating that the counter proposals made by your committee cannot be entertained.

We desire to express the opinion that the offer recently submitted to the shareholders was totally inadequate, and that no offer should have been entertained by our board that did not embrace an alternative of a cash payment (on a fair basis) instead of shares, for the following reasons:

That the Eastman Kodak Company of New Jersey is an American Company, holding meetings in America and subject to its laws. The shares command little or no market in this country, are troublesome to register, and by the rules of the London Stock Exchange the new shares would not be realisable for some time.

We have considered the desirability of suggesting a combination of the British trade, including in the union the large and successful plate and film makers, paper manufacturers, camera and lens makers, and distributers. We believe that such a combination might be advantageous to our shareholders, but without the necessary authority to negotiate it is impossible to ascertain the figures relating to the different companies, and except in a vague way to arrive at a basis on which such a combination could be formed.

We considered it our duty to visit our company's works at Ilford and to see the new factory now being erected, but were unable to carry out this plan, because your directors objected to admit anyone to the company's premises, although we had explained that our object was only to see for ourselves the general character of the management, and to interview the departmental managers; we expressly stated that we did not seek to enquire into the secret processes of any of the manufactures. We have, however, interviewed the works manager and also the business manager. Your committee fully realise the responsibilities placed upon them, and especially the importance of not disclosing the many details and trade secrets which have been communicated to them, as any other course would prejudice our business and also our shareholders' interests.

We have endeavoured to arrive at a just solution of the causes of the unfortunate discord between the members of our board, and are glad to be able to say that the whole of the evidence obtainable has tended to refute the unjust and unworthy suggestions made against individuals, and so widely but unwisely published.

We cannot, however, refrain from expressing the view that in the recent negotiations with the Eastman Kodak Company one section of our board pushed the proposals with undue haste, and without fully considering the many interests involved, while the other party advanced trifling objections, and declined serious discussion; the result being that no real effort seems to have been made to bring about an equitable arrangement in the interest of our company. We consider that our board as a whole exhibits a want of general business acumen and a lack of those essential qualifications so necessary for the maintenance of the cordial and harmonious relations that should obtain on every board, and for the successful conduct of so large a commercial undertaking.

Many facts have come up in evidence indicating that the board has not moved with the times, and that more modern ideas and methods, coupled with greater business-like push and vigour, particularly in connection with the commercial side of the undertaking, are essential for the maintenance and development of our business.

Your committee consider that your board does not contain those elements of strength necessary to cope with the exceptional competition to which our trade is specially subject: our want of progress being due to this fact and to the smaller rates of discount allowed by our company, in comparison with the English manufacturers generally, and also with the Eastman Kodak Company.

It must be borne in mind that the task of the committee has been an exceedingly difficult one, and in doing their duty by fearlessly expressing their views they trust that the shareholders and the directors will accept their recommendations as having been made in the best interests of the company.

RECOMMENDATIONS.

1. We unanimously recommend that the business of Ilford, Limited, be continued under strong and more energetic management; and we are of opinion that for the welfare of the company the following changes in the *personnel* of the board are absolutely necessary.

2. Major-General G. F. Blake: We consider that the position of chairman of our company should be occupied by a gentleman having a thorough practical knowledge of commercial affairs, and that General Blake be requested to retire from that position, and occupy an ordinary seat upon the board.

3. Mr. C. J. Cox: It is with much regret that we hear that Mr. Cox is still an invalid, and that it has been necessary for him to obtain leave of absence for some months. At the present juncture we consider the presence of all the directors most essential to our prosperity. We are convinced that Mr. Cox, having the interest of our business at heart, will be the first to recognise this, and will doubtless gladly avail himself of the opportunity of being relieved of an anxious position by endorsing our recommendation that he be requested to resign.

4. Major-General J. Waterhouse: We consider that General Waterhouse's experience does not qualify him for the post of director of our company, as he has no practical knowledge of English trade and finance; and we think he should be invited to retire.

5. Mr. Thomas Hughes: We think that Mr. Hughes, as a director and manager of a department of manufacture, is placed at a disadvantage in having to act in the double capacity, and we recommend that he be invited to resign his directorship, retaining the position of works manager, for which he is so well qualified.

6. Mr. E. B. Knobel and Mr. A. H. Harman: We recommend that the services of these two gentlemen be retained, as we consider their scientific and practical manufacturing knowledge very valuable to our company, strengthened, as we hope they will be, by the election of men upon our board of recognised commercial and financial ability.

7. Directors' fees: We find upon comparison with other companies of similar standing, that the present scale of remuneration allowed to the directors is excessive, and we recommend that the unnecessary office of deputy-chairman be abolished, that the remuneration of the chairman be reduced to £500 per annum, and that of the other directors to £250 each per annum.

8. We further recommend that the directors be requested to take the necessary steps to enable the shareholders in general meeting to fill up the vacancies occasioned by these suggested retirements.

In conclusion, we desire to repeat that the committee have arrived at their recommendations unanimously, and feel convinced that if they are adopted in their entirety, and energetically carried out, the high standard of the company's goods will be maintained, and although we may be called upon to make some immediate sacrifice to meet competition, we believe that increased prosperity will ensue in the near future. We have requested the board to call the necessary general meeting to consider our report and recommendations; and we propose to ask you to support us with your proxies, for which forms will be issued as soon as the date of the meeting has been fixed.

PHOTOGRAPHY, No. 771, Vol. XVI.

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NOTICE TO CORRESPONDENTS.

All letters, advertisements, etc., must reach the office on Friday morning to ensure being dealt with in the issue for the next week. In cases of great urgency, letters delivered up to the first post on Tuesday morning may be in time to receive attention, but this cannot be guaranteed.

Communications for the Editor should be addressed, The Editor of *Photography*, 3, St. Bride Street, London, E.C.

In all publishing matters, letters, orders, etc., should be addressed, Iliffe & Sons Limited, 3, St. Bride Street, London, E.C.

Advertisement copy and orders, and these only, should be sent to the printing works. They should be addressed Iliffe & Sons Limited, Coventry.

LEADER

Signs of the Times.

The observant will note from the merest straws which way the photographic wind—a trade wind—is blowing, and will be able to announce the fact that this or that type of camera and make of plate are going to absorb the attention of the public for the next few months, to the exclusion of those with which at present that august body delights itself. These announcements are often made when there seems little to justify them, and as there is no rule or law limiting prophecy to those who know. they are as often wrong as right.

There is one tendency, however, which has manifested itself of late years, about which there can be no possible room for doubt, and that is in the regular steady growth into favour and popularity of the carbon process. There are, comparatively speaking, few photographers who have not seen this in their own photographic lives. We can all remember a time, not so many years ago, when it was *aut Autotype aut nullus*, and the more enthusiastic workers made pilgrimages to a certain shrine in New Oxford Street for the goods which were there, in a most dignified and reserved way, dispensed.

The last few years have seen a great alteration. The Autotype Co. we have still with us, and we do not doubt for a moment that it is doing a vastly bigger business in carbon tissues and supports than it used to do in the days when it was without a competitor. Yet it no longer stands alone, and we have Elliott and Sons, Illingworth, and Wellington and Ward, all catering for the needs of the carbon printer. Over and above all this, we have ozotype modification of the process, which we owe to the inventive ingenuity of Mr. Manly.

In the same way, whereas at one time we only had the Autotype Manual and Marston's translation of Liesegang's book to provide the necessary information, we now have quite a number of excellent treatises on the subject, including an eminently practical and clearly written one from the pen of Mr. Thomas Illingworth himself.

There are other indications also of the increasing use of what has always enjoyed the well-deserved reputation of being the most beautiful of photographic processes. The professional photographer is beginning to realise that the glossy purple and blue P.O.P. print is not all that his customers want, and that a delicate print of an agreeable tone, which need not be the everlasting red brick colour of which we are all rather tired, will appeal to their taste and draw money from their purse.

Many of our readers are deterred from taking up carbon work, we fear, from a belief that it calls for special apparatus. This is a great mistake. Beyond a squeegee there is really nothing that is indispensable in carbon work that cannot be found in the ordinary house or dark room. The squeegeeing board can be extemporised from a slab of slate or a sheet of glass, the dishes are doubtless at hand, while the materials comprise a packet of cut pieces of sensitised tissue, a packet of pieces of transfer paper, a scrap of P.O.P. for an actinometer, some alum, and plenty of hot water.

We think it only wants these facts to be grasped by every photographer for the carbon process to receive a large accession of enthusiastic workers. As is well put in the preface of Mr. Illingworth's book, the process "has the simplicity, almost, of blue printing, it has all the richness and delicacy of tone characterising silver, and has the permanence of platinum, while over and above all these is a range of colour that is all its own."

Ilford and Kodak.

On another page will be found the report of the committee appointed by the shareholders of Ilford, Ltd., to consider the position of that concern in view of the proposal to exchange Ilford shares for shares in the Eastman Kodak Co. The committee, as was only to be expected, condemns the proposal of the American company as "totally inadequate," and goes on to point out that, for reasons which it gives, "no offer should have been entertained" which "did not embrace an alternative of a cash payment (on a fair basis) instead of shares."

The committee is not content, however, to denounce the proposed arrangement with Kodak Ltd., but has interviewed Messrs. Abbott and Davison of that company, and has made counter-proposals which were not entertained. It goes on to recommend drastic changes in the management, which if carried out will leave three vacancies on the board, including the chairmanship.

The subject of a combination of the British photographic trade has also had its consideration, although, not having a mandate to negotiate, it was impossible that the committee could do much. As it is, it would seem that the subject has been considered from a standpoint which is very different from that of the "combines" that have been suc-

ILFORD AND KODAK. cessful. The committee speaks of the union of "plate and film makers, paper manufacturers, camera and lens makers, and distributers," and believes that such a combination might be advantageous to the shareholders. It might, and it might not.

It is by no means easy, always, to see where the real advantage lies in the combination of distinct and non-competitive businesses. A combination of a plate-maker, a paper-maker, a camera-maker, a lens-maker, and a distributer would not necessarily be much stronger or more economical than any one of the businesses taken by itself. In combining each not only extends its interests but increases the number of its competitors and increases its chances of being attacked and beaten. Of course, certain economies may be effected and improvements made, but they are not necessarily great or far reaching.

Combination to be notably effective should be a combination of competing businesses, so that each addition to the union means not only increased strength for the combine, but actually less competition, a competitor being removed.

Whether any large photographic trust will ever become an accomplished fact in this country we greatly doubt; but if it is to be, and to be successful, it must be organised on the lines of combining competitors rather than businesses that only supplement one another. At the present moment, however, public opinion seems to have veered round until Trusts and Combines are regarded as by no means so safe or so profitable as they were thought to be a year or so ago.

The report is one which the shareholders will do well to study carefully, and in our opinion seems upon the face of it to be a just, a level-headed, and business-like document.

Spirit of the Times

THE COOKE AS A TELEPHOTOGRAPHIC LENS. The new methods of using the Cooke lens which our contributor Mr. F. J. Mortimer sets forth at length on page 167 *et seq.* will come as a surprise, we do not doubt, to a great many of our readers who are also users, in the orthodox manner, of that very excellent piece of optical apparatus. Some may have been led already to employ it in the way suggested by the honorary secretary of the Southsea society, and the makers no doubt were aware of the capabilities of the lens in this direction. We should like to see them provide facilities for its use in the way Mr. Mortimer describes, as it undoubtedly increases the sphere of its utility to an enormous extent. Our half-tone reproductions, although made with a fine screen and printed with care, do not adequately render the definition given by the lens, even when used as quite a high power telephotographic combination, which on examining Mr. Mortimer's direct prints is really surprising. The article as a whole is one which may be commended to our readers, not only for the actual information conveyed in it, but also as an example of how they themselves may find it to their advantage to *know* the apparatus they are using, not merely by reading the maker's instructions (although these, of course, should have the first place), but by actual trial and experiment for themselves. The different pieces of apparatus in the hands of photographers will not all lend themselves to modification like the Cooke lens does, but tests and experiments will at least show how far the capabilities of each may be extended with advantage, and where the line must be drawn beyond which little or nothing may be expected.

* * *

THE LATE A. R. DRESSER. The death of Mr. A. R. Dresser removes one whose name was well known as an exhibitor fifteen or sixteen years ago, and one whose success in that direction was great and continuous. Ill health has prevented him latterly from taking anything like the part in competitive photography that once he did; but we understand that his interest in it was maintained to the last. Some idea of the scale upon which Mr. Dresser exhibited may be gathered from the statement he made more than once that in two years his expenditure in sending work about had exceeded a hundred pounds a year. Mr. Dresser was very early a devotee of the hand camera, was the author of booklets upon slide-making and bromide printing, and took a prominent part in the Camera Club during its first years.

* * *

CAMERAS AND THE CUSTOMS, ETC. So the bolt has fallen, and Mr. Pierpont Morgan has threatened to have "the camera fiend" barred from all vessels controlled by the International Mercantile Marine Company in the future, owing to the way in which that magnate has been annoyed by persons who wished to photograph him on his recent arrival in America. Some few months ago printed permits were circulated in the neighbourhood of the Stock Exchange, which read as follows: "Allow the bearer to walk upon the earth.—(Signed) J. Pierpont Morgan." They will have to have a new or modified form, with a clause permitting photography, of course only to a very moderate degree and with all due safeguards. The "shipping," or whatever "king" Mr. Morgan may be, is newer to his monarchy than King Edward VII., and so has not yet acquired the regal courtesy of the latter—a courtesy which leads him to assist the harmless camera man rather than to threaten him with extinction. As a supplement to the intelligence we have just noted, which, by the way, was thought worthy of being telegraphed from New York, we learn that the collector of Customs in that port has issued an order prohibiting the taking of cameras on board incoming passenger steamers; but this is hardly a surprise. In a country of high tariffs, like the United States, cameras carried by persons who cross and recross the barriers at which the Customs examination is made, offer facilities of which advantage is bound at times to be taken. It might be worth noting in this connection that on a visit to the States recently, we took in a high-class camera and more than a gross of British plates, which were passed by the Customs authorities without the slightest demur.

A street in old Lourdes (see page 154). *By G. E. Thompson.*

A NOTE ON REDUCERS. A correspondent writes to the *Photo-Revue* giving some notes on the reducing baths commonly used, containing either acidified potassium bichromate or acidified potassium permanganate. In either case the action is to convert the metallic silver of the image into a salt which is soluble in hypo or in the reducing bath itself. The substitution of hydrochloric acid for the sulphuric was suggested some time back, we believe by M. Schleusner, but this is not by any means to be recommended. It simply transforms, says M. Löbel, the silver into silver chloride. so that potassium sulphate, silver chloride, and the chromium (or manganese) salt remain. In now putting the plate in hypo, as was suggested, all the silver chloride will dissolve. and consequently the whole image will disappear. M. Löbel also advises the use of a fairly weak solution, he himself using one part by weight each of the bichromate and sulphuric acid to a thousand parts of water. The commonest mistake is the use of too strong a bath.

* * *

COLOURS ON BROMIDE PAPER. Under the somewhat misguiding heading of "Photographs in Colours," the *Nord Photograph* publishes an article giving some various methods of toning bleached bromide prints. A solution containing eight per cent. of lead nitrate and ten per cent. of potassium ferricyanide is used to bleach the finished and washed pictures. Brown tones are produced by redeveloping the image with a six per cent. solution of sodium sulphantimoniate, made alkaline with ammonia. If sulphocyanide and gold be used to give the print a yellow tone, it may then be turned green by immersion in a ten per cent. solution of either ferric or nickel chloride. A simple solution of potassium chlorate produces a yellow picture, whilst orange tones are given by a redevelopment with mercuric chloride thirty-four parts, potassium iodide four parts, water one hundred parts. A yellow print may be converted into a red one by further treatment with a ten per cent. solution of copper chloride. This brief summary, we have little doubt, will provide many hours' amusement for those who care to go through the list. but the results we cannot guarantee, either as to their colour or their permanence. The most satisfactory way by far to make coloured prints is to use carbon tissue, and we cannot help thinking that infinitely more of this would be employed for printing if photographers would only take the trouble to find out how simple carbon printing really is.

The Week's Meetings

THURSDAY, AUGUST 20TH.

Blackburn. Worsthorn and Pendle Hill.

SATURDAY, AUGUST 22ND.

EXCURSIONS.

Boro. Poly. Isleworth.
Glasgow P.A. Killearn.
Ilford. Ilford Survey (Record Work).
Bristol. Portbury.
Bradford. Bolton Woods.
Walthamstow. St. Olave Church, Hart Street, E.C.
Leeds C.C. Steeton High Hall.
Blackburn. Worsthorn and Pendle Hill.
Woolwich Survey. Plumstead for Stoney Hill Wood, Bostal Heath, and neighbourhood.

MONDAY, AUGUST 24TH.

Bradford. Indoor Meeting.

TUESDAY, AUGUST 25TH.

Nelson Prints, Hardcastle.
Hackney. Question Box.

WEDNESDAY, AUGUST 26TH.

North Middlesex. Technical Meeting.
Everton. Bromide Printing. J. Hawkins.

FRIDAY, AUGUST 28TH.

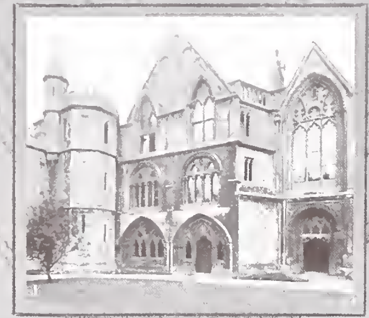
East Liverpool. The Camera and its Management.

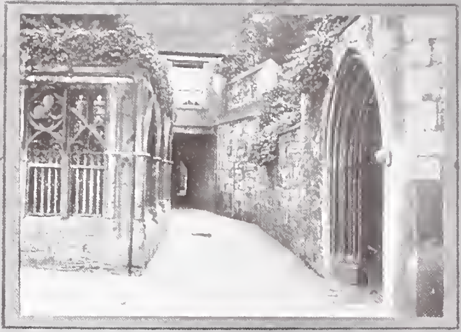
SATURDAY, AUGUST 29TH.

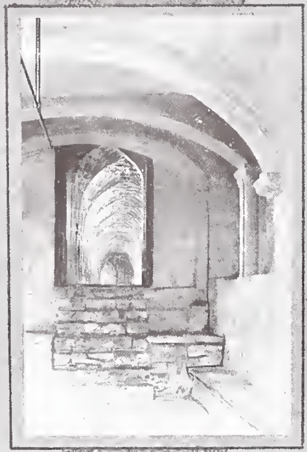
EXCURSIONS.

Hull. Kirk Smeaton.
Halifax. Newsholme Dean.
Catford and Forest Hill. Crystal Palace Gas Works.
Barrow Nat. Urswick, Bardsea.
Everton. Half-day Outing.
Coventry. Stoneleigh.

Societies will have their meetings announced here if the syllabus is sent to us at the beginning of the Session, or from time to time.





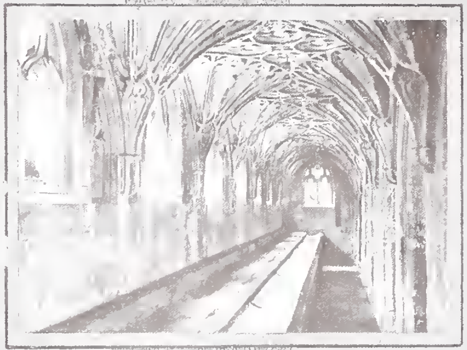


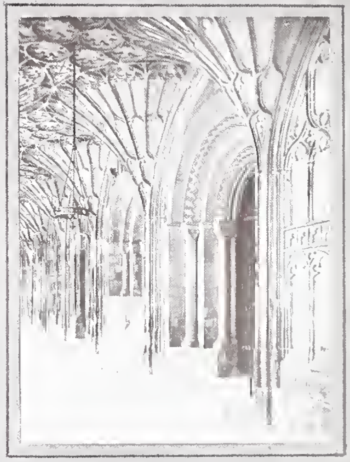
The Cloisters of Gloucester Cathedral.

Written and illustrated by
Frederick H. Evans.

One illustration for this article will be found on page 153.

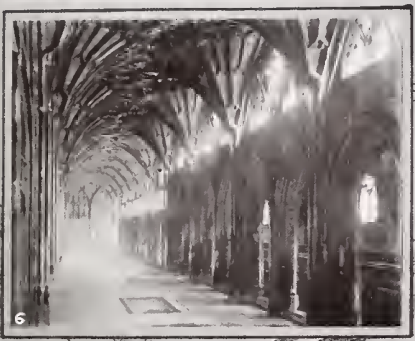
SPECIAL TO "PHOTOGRAPHY."





THE Cloisters of Gloucester Cathedral date from 1351, when Abbot Horton began them, building the South Alley, or Walk, as far as the entrance to the Chapter House. They were finished, that is the remainder of the South and other Alleys of the quadrangle, by Abbot Froucester. This Abbot reigned and worked from 1381 to 1412.

These Cloisters are acknowledged to be some of the finest and most perfect in the kingdom. The vaulting is of the kind known as fan-tracery, which is generally supposed to have been first designed and built in these Cloisters. The outer walls are of the Norman period, now overlaid and refaced by Perpendicular panelling. The length of each of the walks is 47ft., and though they form a quadrangle



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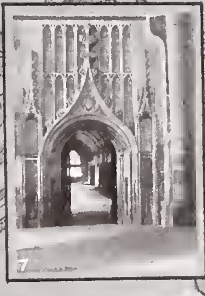

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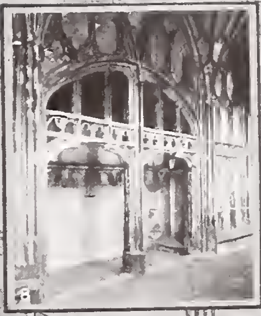

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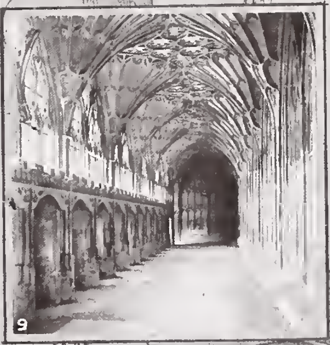

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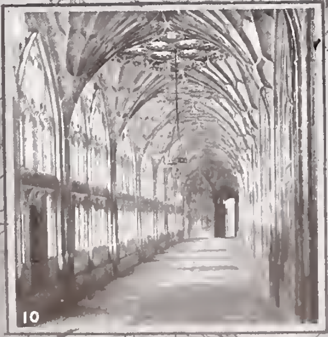

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they are not perfectly alike. They are each 12½ft. wide and 8½ft. high. The East Alley (No. 10) is the first part of the Cloisters usually seen by the visitor, the Alley being entered from the Nave of the Cathedral by the door near the North Transept. There is also another door leading from the Nave of the Cathedral into the Cloisters, but it is not usually in use. We have a small picture of it in No. 7. Looking into the West Walk, or Alley, the Perpendicular panelling of this door is very fine, and with its good crockets and finial makes a most beautiful feature; and, when it is occasionally open, the view through it into the Cloister Walk is very effective. Recurring to the East Walk, we notice that the windows are nowadays glazed, filled with stained glass in memory of sundry deans, canons, archdeacons, etc.; they were, of course, not glazed when in use by the monks, and very conducive to a stern discipline must such draughty and cold walks have been, leading possibly to a physical righteousness, if not a mental and spiritual one.

On the right, or east, side is the entrance to the Chapter House; this gives us the illustration No. 4. This doorway contains some very good Norman work, slightly restored. It should be noticed how beautifully the Perpendicular fan-tracery is grafted on to the sterner Norman work; though it is so much later in date, it looks a quite natural growth from it, and exhibits nothing in the slightest degree incongruous.

In the South Alley, the ten windows have each six lights, but below the transoms the lights are replaced by twenty carrels or studies, recesses, two to each window (see No. 9). To this walk the monks resorted daily for study and meditation and whatever artistic work in illumination and writing they may have had in hand; here they spent their time, after they had dined, till evensong.

On page 153 we have a point of view that gives us a carrel in more detail; we also get a portion of the wall panelling of the West Alley, and at the end we see the way down into the quaint little room known as the Abbot's Parlour, from which, had we the Dean's privilege and key, we should emerge on to the open ground of the West Front of the Cathedral, close to the Deanery, as is shown in No. 1. The Abbot's Parlour entrance is on the extreme right, the Deanery being the fine old building in the centre. If we descend the few steps leading into this Parlour we get a very delightful glimpse back into the South Alley (No. 3). The vaulting and pillars at the side of the Parlour are seen to be Norman. I am afraid the gas-pipe, so much in evidence, is but late Victorian. I did my best to get it out of the picture, but unsuccessfully. Further efforts meant certain damage and leakage, so I had to accept the dreadful anachronism with the best grace I could muster. The view we get from this Parlour of the fan-tracery makes a very effective piece of perspective. A very difficult bit of drawing it would certainly be for any draughtsman, but for the lens, of course, as easy as it is perfect.

The North Alley contains the monk's Lavatorium, perhaps the most interesting portion of the Cloisters, taking us back at once among the old-time habits and customs. No. 6 is a view of the Alley looking eastwards, with the Lavatorium on the right, entered through the eight tall arches.

GLOUCESTER CATHEDRAL.

Our interior view of this Lavatorium is given in No. 5. It is accepted as one of the most perfect of its date that has been preserved. It projects some 8ft. into the Garth (the grass enclosure of the quadrangle, here used as the Dean's private garden), but it is entered from the Cloisters only. It is 47ft. long and 6½ft. wide, and it is lighted by eight two-light windows facing the Garth, with a similar window at each end. On the broad platform against the wall stood a lead cistern, or laver, with a row of taps. The hollow trough in front was originally lined with lead, and at it the monks stood and washed their faces and hands. The same beautiful groining will be seen to roof this Lavatorium as does the Alley outside it, making a most luxurious place for such common use as mere washing. It is well the monks were more respectful to it than we should now be with anything subserving such a merely utilitarian purpose, for a more beautiful or interesting bit of architectural detail it would be difficult to find.

Opposite this Lavatorium is a finely-designed Almery (No. 8) or recess used by the monks for keeping their towels, etc.; the hooks and signs of doors to this recess are still visible.

I may here be allowed to interpolate a word or two as to the photographic treatment of these Cloisters; they are so often treated wrongly, made to look far too long and too high. They should be taken from as near one end as may be, and with a lens long enough in focus to embrace but half the length of the Alley; if more is included, a sense of distortion, or undue magnification of the foreground material, will be given, ruining the fair and beautiful proportions of these lovely Alleys. Great care must also be taken as to the proper height of the camera, as that may also go far to spoil the proper effect if wrongly adjusted. It will also be well to acknowledge frankly that such compositions demand an almost or quite square picture for their adequate treatment. If made into a vertical or upright picture the roof and floor will be greatly distorted, and if made into a horizontal or so-called landscape shaped picture, the walls will suffer from distortion. A square picture has its own charms, and in this case will realise far more truthfully the effect the eye gets when enjoying these matchless corridors.

Leaving the Cloisters with a sigh as one feels how enviable life must be where such old-world joys can be made friends of at will, we can gain the town by a quaint and delightful walk out of the East Alley, through and past what are known as the Little Cloisters. We have a view of their exterior in No. 2. They consist of an irregular quadrangle with sides of varying length, and they are a good example of Perpendicular work. The West Alley is a part of a fifteenth century house, which is built over it. The South Alley has a lean-to roof, and the other two Alleys are now unroofed. They were at one time covered by part of a large building called Babylon, but all trace of it has now disappeared.

It is thought that the Garth of these Little Cloisters was the Herbarium, or Herb Garden, of the Monastery.

A Special Kind of Fog, "Dichroic," and its Removal.

The Latest Research Work by MM. Lumiere and Seyewetz.

THE modern photographer is fortunate in many ways; in none more so than in the way in which so much of his preliminary work is done for him. This is especially the case with regard to plates and films, which have now attained such a pitch of perfection that no doubt most photographers do not even know what "dichroic fog," as Messrs. Lumière and Seyewetz call it, is like. Yet in the old days it was very different.

Then both commercial and home-made plates suffered from it, and often suffered from it very badly. Some people called it "red fog," because on looking through the negative at a light it appeared to be of a red colour, sometimes quite a deep ruby. Others called it "green fog," because its surface appearance, or its look when seen by reflected light, was of a more or less pronounced green, often metallic. The term "dichroic, which may be translated "double coloured," is perhaps the best of the three.

Its cause has long been known. It is brought about by the presence at some stage of the proceedings of some substance capable of dissolving the silver bromide, iodide, or chloride, together with some other substance with a tendency to throw down the metallic silver in the film. Messrs. Lumière and Seyewetz have been giving it a good deal of attention, and have just published an important paper on the subject, of which what follows is a summary.

Dichroic fog, they tell us, occurs during either development or fixing. It is brought about during development when the developer contains a solvent of silver bromide, such as sodium hyposulphite, ammonia, potassium cyanide, etc. A very small quantity of hypo is sufficient to produce it. It is produced during fixation, when the bath contains a small quantity of the developer mixed with sodium sulphite in developers such as diamidophenol, and also by an excess of alkaline carbonate in alkaline developers.

The conditions which most favour the production of this fog are under-exposure, substances increasing the power of the developer, such as sodium sulphite and the alkalies, or, if the fog form during development, it may be caused by prolonged development.

They tell us that they have ascertained that this fog contains no silver bromide, and say that it is doubtless formed by an argentic compound, very rich in silver, and containing a small quantity of organic matter arising from the substratum, probably resembling in composition the substance known as "collargol." This collargol is obtained by treating a soluble silver salt with a developer in the presence of colloidal organic matter, and shows properties nearly allied to those of dichroic fog. If dichroic fog be not pure silver, it undoubtedly contains a very large proportion of that metal, and gives the same chemical reactions as pure silver.

It is noteworthy that fog formed in development is far more superficial than that formed during fixing. That formed during development may be called surface fog, while that formed in the fixing bath they term deep-seated fog. The two kinds show different results when treated with different reagents, some of which act more readily on the surface, others in the deeper portions.

A detailed description is given of their examination of different methods of getting rid of the fog. These included the sulphurisation of the fog and, incidentally, of the silver of the image itself, and its treatment with different reducing agents.

With most reducers there is the drawback that they not only reduce the fog but the image as well. This is the case with cerium sulphate, with ferricyanide and hypo, with potassium permanganate and sulphuric acid, and with acidified potassium bichromate. Ammonium persulphate, they say, readily removes that form of fog which is formed in the fixing bath without appreciably affecting the image, if the precaution be taken to plunge the negative in a solution of either sodium sulphite or bisulphite as soon as the fog has disappeared. The surface fog is also equally well destroyed, but as this lies but little in the deeper portions of the film the image will be affected in parts. Therefore, by the use of acidified ammonium persulphate, provided the fog be sufficiently dense, it is possible to ascertain whether the fog has been formed in development or in fixation. The best results are shown by the use of a three per cent. solution of ammonium persulphate, stronger solutions apparently having no more rapid action in the removal of fog.

After referring to the method of converting the fog into some silver compound that shall be capable of development and then developing it, a course they do not recommend, they come to the use of oxidising agents to remove it. The only oxidiser which seems to have been of any practical utility in this connection is neutralised potassium permanganate.

When a solution of potassium permanganate (of one in a thousand) is applied to an image showing dichroic fog, the permanganate in a few seconds totally dissolves that fog, whatever its density. It deposits in the gelatine coating manganese oxide, which dissolves upon the negative being immersed in a solution of sodium bisulphite, and all traces of the fog vanish without weakening of the image.

The colour of the image, however, is modified, becoming browner. On the other hand, on examination of the dry image by reflection, it will be seen that in the parts corresponding to the densest deposits of reduced silver a mirror-like reflecting surface will be shown which in no way alters the relative value of the half-tones when the image is examined by transparency.

The action of permanganate is equally apparent on fog formed during fixation as on that arising in development, and this process appears to be the most effectual of all those that they have examined up to the present.

The work is thus summarised. To destroy dichroic fog preference may be given to the following:

(1.) Treatment of the negative by ammonium persulphate, followed by fixing in sodium bisulphite. This is applicable only to dense fog.

(2.) Transformation of the silver into sulphur by sulphuretted hydrogen (hypo and citric acid). This is in particular applicable to fog formed in development.

(3.) Neutralised potassium permanganate, followed by treatment by sodium bisulphite. This last method applies to all cases, and is the process giving the best results.

QUESTIONS AND REPLIES

Readers wishing for information upon any specific point in connection with photographic theory or practice are invited to make use of the "query form," which will be found amongst the advertisements. All enquiries must comply with the conditions stated upon the query form; those which do not do so are neither acknowledged nor answered. All enquiries are answered by post. We cannot undertake to make replies in the paper. We print below from time to time a selection from the queries we receive, and our replies.

SODIUM AND POTASSIUM CARBONATES.

How much stronger is anhydrous sodium carbonate than the ordinary variety in actual use, and how does anhydrous potassium carbonate compare with the ordinary? Is the potassium or the sodium best for use in the developer?

One hundred and six parts of anhydrous sodium carbonate may be regarded as equivalent to two hundred and eighty parts of the ordinary variety sold in small clear crystals. Roughly, one part of the former may be taken for two and a half parts of the latter. Similarly, one hundred and thirty-eight parts of anhydrous potassium carbonate are equal to one hundred and eighty-six parts of the ordinary fine white crystalline powder. Practically the same results will be obtained in development whether the potassium or the sodium salt is used, but as the potassium carbonate rapidly takes up water from the air if the bottle is not exceptionally well corked it is inconvenient to use, while the sodium carbonate is very constant under ordinary conditions.

CHROMATIC ABERRATION WITH SPECTACLE LENSES.

I am using some spectacle lenses of rather long focus, and, of course, the image on the plate is not in the same degree of sharpness as that on the screen. I do not want microscopical definition, but I do not want it unnecessarily blurred. By how much should the plate be set forward after focussing with lenses of twelve, eighteen, and twenty-four inches foci?

As the correction is generally between the fortieth and the fiftieth of the focus the distance is easily calculated in each instance. There are, however, two other methods of working which would save that trouble and which give fairly accurate results. The first may be put into practice when orthochromatic plates are used, in which case a screen of a moderately deep yellow will cut out the blue and violet rays and leave the yellow rays alone to form the image. When ordinary plates are being used the correction may be made by glazing the lens cap with cobalt blue glass and focussing through that.

BARTOLOZZI RED PRINTS.

What paper or process is used to produce the red matt surface prints so popular at the present time with professional photographers? They look like red bromides or platinotypes.

The prints are made by the carbon process, the materials for which, with full instructions for working, can be obtained from all dealers. Several books have been published on the process, but most of the makers give pamphlets on application. Matt surface gelatino-chloride and collodio-chloride papers can be toned red by following the makers' instructions, and bromide prints can also be toned to sepia and red colours by use of the uranium intensifier. This latter process, however, is seldom or never employed by professional photographers. Some self-toning papers give a good red colour.

EXPOSURE AND DEVELOPMENT.

Will you kindly say if enclosed negatives are fogged or over-exposed? No. 1 had eight minutes exposure, and No. 2, which is on an orthochromatic plate, had twenty minutes exposure without a filter. Both plates were exposed under similar conditions at 11 a.m. at a north window; no sun.

Both plates have been grossly over-exposed—how much we cannot say—but for such flower subjects under the conditions named probably seconds would have been nearer the mark than minutes. The negatives have also been light fogged or fogged by the use of an excess of alkali in the developer. We should advise the purchase of an actinometer and of Watkins's "Manual of Exposure and Development," when the negatives may be correctly exposed and developed by the factorial time method. They should be covered over as much as possible during development.

DISTANCE OF NEGATIVE FROM CONDENSER.

I should be obliged if you would advise me as to the distance a condenser of ten inches diameter should be from the negative?

The exact position of the negative in relation to the condenser does not greatly affect the result, except that the farther apart they are the smaller will be the negative that can be covered. The position of the negative is in most instances settled by the construction of the lantern. If a negative 8in. by 6in. were placed absolutely in contact with the ten inch condenser it would just be covered, though there would be a falling off in the light at the corners. As the light that issues from the condenser is in the form of a cone, it is obvious that if there is even half an inch separation between the two there will be a diminution in the size of the disc of light. The best plan is to put the negative at such a distance that the whole of it lies just within the cone of rays.

REDUCING OVERDENSE NEGATIVES.

Please say how I can reduce the high lights in the enclosed negatives without weakening the shadow detail?

If the negatives are bathed in a two per cent. solution of ammonium persulphate slightly acidulated with sulphuric acid, the results of the excessive development will be practically undone. In most instances this treatment will be sufficient, as the exposure has been sufficient for the shadows and the violent contrasts are due solely to over-development. The action of the reducer is slow at first, but must be watched carefully, as it acts very rapidly after a while. As soon as the reduction has proceeded far enough the negative, without washing, should be transferred to a five per cent. solution of sodium sulphite, and after a few minutes to an ordinary fixing bath. In the case of the negative which shows nearly clear glass in the shadows, a different treatment must be adopted. One method is to bleach the image in a solution made by dissolving thirty grains of chromic acid and sixty grains of potassium bromide in ten ounces of water. The negative must then be well washed and redeveloped with the usual developer. All the operations may be carried out in full daylight. The surface of the negative will first be developed, and gradually the half-tones, and finally the high lights will follow. The action may be watched from the back of the plate, and as soon as the half-tones are developed, and before the action is completed in the lights, the negative must be placed in the hypo bath, which will fix out the undeveloped silver bromide in the lights and so reduce the contrasts. The operation requires some skill, and should not be tried for the first time upon a valued negative. The other method is to make a transparency upon an ordinary plate, slightly over-exposing to reduce contrasts. There should be no clear glass in the transparency, and the shadows must not be opaque. From this a new negative may be made that will yield a suitable print. The method has the advantage that the original negative is not injured, and if the first attempt proves a failure it may be repeated till perfect results are obtained.

THE TREATMENT OF P.O.P. PRINTS BEFORE GLAZING.

In *Photography* for August 15th, 1901, you gave excellent instructions for glazing P.O.P. prints. How long should they be immersed in the alum bath, how strong should the solution be, and how long should they be washed afterwards? If allowed to dry before further operations, how long should they be soaked in water before being applied to the glass or ferrotype plate? Is it advisable to do all the washing before and after fixing in the print washer?

Five minutes immersion in a one in ten solution of alum is sufficient, and ten minutes washing in running water will remove the alum. If dried and again wetted it is sufficient that the prints should be thoroughly limp, and three minutes immersion in cold water will do that. If it were possible to remove the last traces of the hypo from the tank after washing the fixed prints there would be no harm in washing the next batch of prints in it before toning, but as it is almost impossible to ensure the tank being thoroughly clean, and as the slightest trace of hypo would ruin the untoned prints, it is safer to do the preliminary washing in porcelain dishes that are never contaminated with hypo

FOGGED PLATES.

I have been much troubled with my plates fogging in the developer before the image appears. Are the sheaths of the changing box likely to have caused this, and if so, what can they be painted with to effect a cure? Some that were in the changing box for seven days were badly fogged, while others that were developed the same day that the box was filled were clear. I enclose the plates; some of them have transparent streaks upon them; these when they occur are always the long way of the plate. I am also of the opinion that the plates are not properly fixed, though six ounces of hypo to the ounce of water were used, and afterwards some were fixed in hypo sixteen ounces to the pint of water.

The fact that the plates that were long in the sheaths were fogged, while the others remained clear, lends strength to the supposition that the metal of which the sheaths are made is to blame. Many metals when the surface is fresh have this effect on the emulsion, but on the other hand this action does not usually continue after the surface becomes oxidised. In such cases one expects to find the fog irregular in shape, while on the plates submitted it resembles much more the fog caused by an unsafe light in the dark room, or by an excess of alkali in the developer. We fear that painting the sheaths would only introduce fresh troubles, as varnishes and paints have an even stronger effect upon the plate than have metals. The better plan would be to expose the sheaths to the air till they become thoroughly oxidised. The irregular streaks on the plate resemble oil much more than anything else; you should examine the changing box for traces of it. The plates appear to be perfectly fixed, but a fixing bath of moderate strength, say four ounces of hypo to the pint of water, will fix more rapidly than a stronger one will. Sixteen ounces to the pint would make a nearly saturated solution that would be very slow in fixing. Some of the plates have been considerably over-developed, and these exhibit the fault to a greater extent than the others, which seems to confirm our opinion that the dark room lamp or the developer is at fault.

REMOVING MICROSCOPIC COVER GLASS FROM A FOCUSSING SCREEN.

I wish to remove a microscopic cover glass from the centre of my focussing screen. Can this be done without injury to the screen, which I should be sorry to damage, as it is a very finely ground one?

If the screen is placed in a bowl of hot water, the balsam will soften sufficiently to allow the cover glass to be slid off. The remaining balsam may be cleaned off with methylated spirit or turpentine, leaving the screen in its original state.

NOTICE TO ENQUIRERS.

Answered by post: E. D., Foggy, W. Couchman, H. Arthur Wayne, Professional, T. Clare, Horace Smith, F. W. K., Miss Harwood, Hon. Mrs. Waggett, Sulphocyanide, Pevensey, H W., Oakfield, G. L. C., Studio, Frena, H. T., J. F. O'Brien, Carlisle, J. J. F., W. J. C. Forrestier, H. F., R. Gould, New Subscriber, G. Parke, Kodak, G. W. N., T. Hammerton, J. C., W. C. Croft, W. Wroughton King, J. Smith, S. T. Payne, W. Greene, W. T. Reynolds, G. F. B., St. Leonards, E. R. S. Taylor, Shareholder, M. R. Y., George Bullock, H. Tombs, C. J. G., Florist, C. R. J., W. G , Constant Reader, K. V., E. A. O., T. Monger, J. T. B. Hall, Flashlight, A. Crossley, A. Cohen, Elsie Leighton, Tourist, Density, G. C. and W. Wilson, L. Barnett, Backing, P. W., Insurance, G. Lamb, H F. Park, L. Sidney Cresswell, C. S. Alger, Bi Gum, H. Johnson, T. R. Beevor, Wet-plate, W. S. Parey, M. Cockburn, G. Hood, L. S., T. E. H., Enquirer.

ANOTHER KODAK ABSORPTION. The Rochester Optical Company.

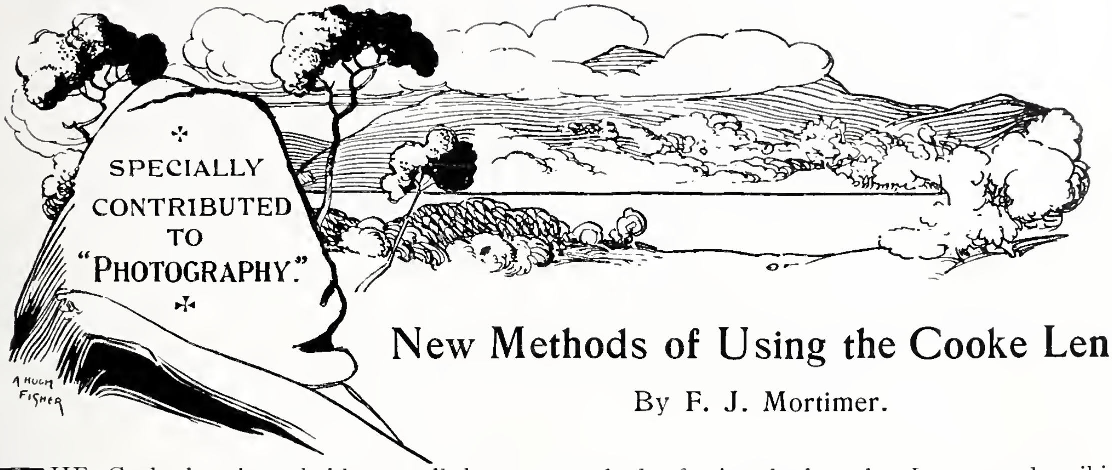
THE shareholders of the Rochester Optical and Camera Company at the South Street Factory, Rochester, New York, U.S.A., on July 28th, confirmed the recommendation of a special committee that an offer for their business made by Mr. George Eastman should be accepted. The offer was to take over the liabilities of the company, which were not to exceed $287,000, and to pay in addition for the assets the sum of $110,833, so it will be seen that the price works out at something less than £80,000.

The Eastman offer was made subject to its definite acceptance or rejection by the first of the current month, so that the meeting was held just within the prescribed time. The company has two well-equipped factories in Rochester, and carries a large stock of cameras and other photographic goods both finished and in course of manufacture—in fact, in stand cameras it occupies a very prominent position in the States.

The decision of the committee was arrived at, only after the consideration of a number of other proposals, by a process of exclusion, and the sum fixed upon is a trifle smaller in amount than that of a previous offer, which we reported a couple of months ago. It was thought that it would be better to accept a fixed sum and transfer the liabilities rather than that the company should collect its own debts and meet its liabilities itself, as this latter course would in itself absorb a good deal of the sum handed over. As it stands it is proposed that Mr. Eastman, by which, of course, the Eastman Kodak Company is meant, shall collect the assets and discharge the liabilities.

The Chairman of the Rochester Optical and Camera Co., in submitting the proposal to the stockholders, stated that he anticipated that when all was settled up there would be a small margin for the holders of preferred stock, but that there had not been for some time any chance of the holders of common stock realising anything by the sale of the company.

The proposal was formally supported by 19,853 votes out of a possible 25,000, so that the absorption would appear to be an accomplished fact.



New Methods of Using the Cooke Lens.

By F. J. Mortimer.

THE Cooke lens is probably so well known to most readers of *Photography* that any further description of it is unnecessary beyond the general statement that it is a high-class English anastigmat of peculiar construction and exquisite defining powers.

That it is more capable, however, as I shall proceed to show, of greater adaptability to the various requirements of every kind of modern photography than possibly any other lens extant may come as a surprise to many. The lens is primarily, as all its users are aware, different in form from any other type of anastigmat on the market, inasmuch as it is composed of three simple glasses only, and while theoretically as perfect as any more complex anastigmat, its very simplicity of construction facilitates the attainment in manufacture of a higher uniform standard of excellence amply demonstrated in practice. The remarkable properties which are inherent in this type of lens construction have been taken advantage of by probably very few indeed of the users of the Cooke lens, which is placed on the market ostensibly to be used in its complete form, *i.e.*, the component parts not to be used as separate lenses, as with practically every other type of modern anastigmat. The makers, however, have conceded a point to those who have desired to convert the lens to one of longer focal length, by making an extension lens which replaces the back glass of the complete instrument, and increases the focal length by about fifty per cent. This is a great advantage, and the unique focussing Cooke lens has also been brought into being by advantage being taken of a notable property of the lens exploited some time ago by Mr. Hodges, who found that by unscrewing the front glass of the lens and so increasing the separation between the front and central glasses, the focus of the complete lens was shortened, according to the amount of the separation. The focussing Cooke, therefore, by the simple alteration of the distance between the front glasses by means of the revolution of a scaled ring (which, in fact, is the mount of the front lens) provides a means of focussing objects at any distance, while the lens itself is kept at one fixed distance from the sensitive plate—an immense advantage to the user of the "fixed focus" box form camera.

No apology is needed for these preliminary remarks dealing with the Cooke so far as it is known, as I wish it to serve as an introduction to some other methods of using the lens that I propose describing, and also to bring to the notice of its users, a property it possesses probably unknown to the majority—a knowledge of which will place the owner of a Cooke lens in immediate possession of what will be equal to a complete battery of lenses of varying foci, ranging from twenty-five per cent. less than the normal focal length to over five times as much.

I will first deal with shortening the focal length.

As I have previously stated, increasing the separation between the two front glasses of the complete lens by unscrewing the front one effects this; but beyond the focussing Cooke, which utilises the property merely to bring near objects into focus without alteration of the relative distance between lens and plate, the fact that a *wider angle* lens than the normal has been thus produced seems to have been ignored. In fact, two circumstances arise in thus shortening the focal length. The first is that the lens at once embraces a greater angle, and so includes considerably more of a given view on a certain sized plate, and the other is that as the focal length is decreased the relative values of the stop apertures *increase*. The value of the first for confined situations and for copying purposes must be at once apparent, and the value of the second when a bigger aperture than f/6.5 (the aperture of the normal lens, series III.) is wanted also needs no comment.

It will be found that one complete turn of the front lens will shorten the focal length of a 5½in. Cooke lens to 5in., and two turns to 4¼in. approximately. Beyond two and a half turns it is not wise to go, or the lens may become entirely unscrewed. Stopping down also becomes necessary to help the marginal definition when the front lens is unscrewed as much as this, but as the full aperture f/6.5 becomes approximately f/5 on the 4¼in. lens thus altered stopping down a trifle is accompanied by no appreciable increase of the normal exposure; while if the spherical aberration introduced is considered no detriment, a remarkably quick-acting lens is secured. This should also be borne in mind by all users of the focussing Cooke, in which, although little more than a quarter turn of the front lens is utilised to bring objects into focus at three yards—the normal lens being focussed at infinity—the stop apertures as marked become slightly larger in proportion as the focal length of the lens is shortened. This property of the Cooke lens should

be greatly prized by the copyist, who, while desiring a moderately long focus lens for general work, wants a lens of shorter focal length for copying, especially if the camera extension is limited. Shortening the focal length of the lens not only enables a much larger copy of an object to be made with a certain camera extension, by allowing the camera to be placed nearer the object, but, if sufficient extension is available, enlargements may also be successfully achieved.

This power of shortening the focal length can also be successfully employed when the extension lens is used.

The standard extension lens supplied by the makers increases the focal length about fifty per cent. Thus the 5½in. lens fitted with the extension—which takes the place of the back lens—becomes 8½in. focus, and works at full aperture f/11. Unscrewing the front lens can now reduce this focal length to about 7½in. with safety, and increase the full aperture to about f/8 if necessary.

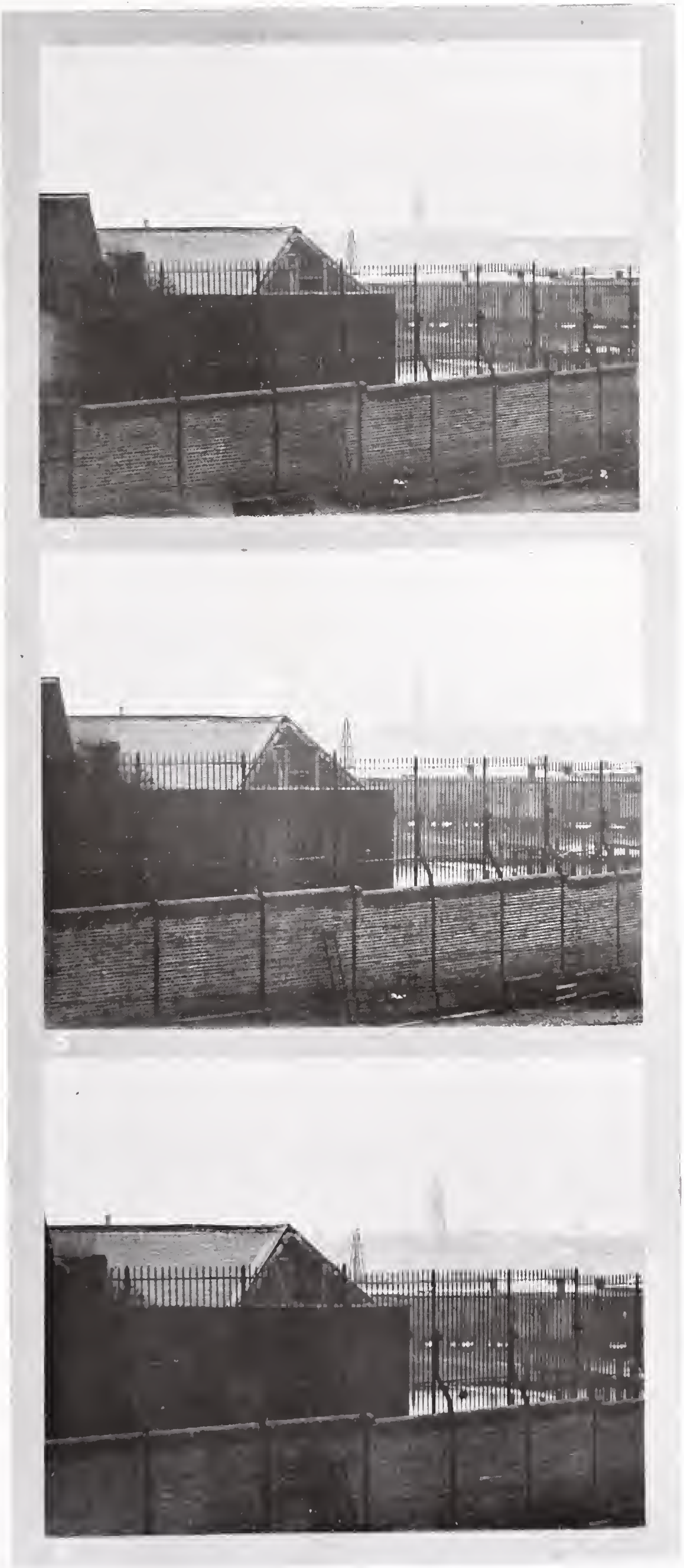
Another property peculiar to the Cooke, and one which I will show can be turned to practical account, is that the focal length is measured from approximately the setting of the *front* lens, and not, as is usual with practically every other type of lens, from some distance behind the front lens—usually midway between the combinations. This, in the first place, particularly with box form cameras, allows a much shorter space between lens and plate, and with bellows cameras less camera extension for any given focus than with any other lens of the same focal length—a fact to be noted when copying, as a useful amount of bellows pull (nearly one and a half inches in the half-plate size) can thus be utilised for greater extension. In fact, the depth of the lens mount itself can be reckoned as part of the camera extension when measuring the focal length.

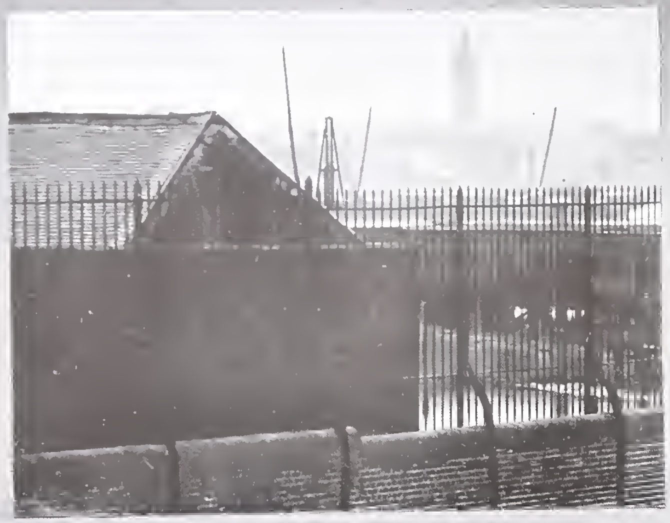
The great point, however, in thus measuring the focal length of the Cooke from the front lens, and one probably not turned to account before, is that the focal length is measured from this actual front glass, no matter which way the complete lens is turned towards the plate. Consequently, if the lens is inserted in its flange from inside the camera, so that the front of the lens points towards the plate and the back lens towards the view (a state of affairs in no way detrimental to the optical qualities of the instrument), the focal length is still measured from the front glass, which is now at the back, and the camera extension required is considerably more than that wanted for any other lens of the same focal length, as the length of the lens tube has now to be *added* to the camera extension representing the focal length of the lens. That this quality can be taken advantage of when using a small Cooke lens on a larger plate as a wide-angle lens is at once apparent—the greater distance of the posterior surface of the lens from the plate allows a larger circle of light to impinge on the plate, although the focal length remains constant.

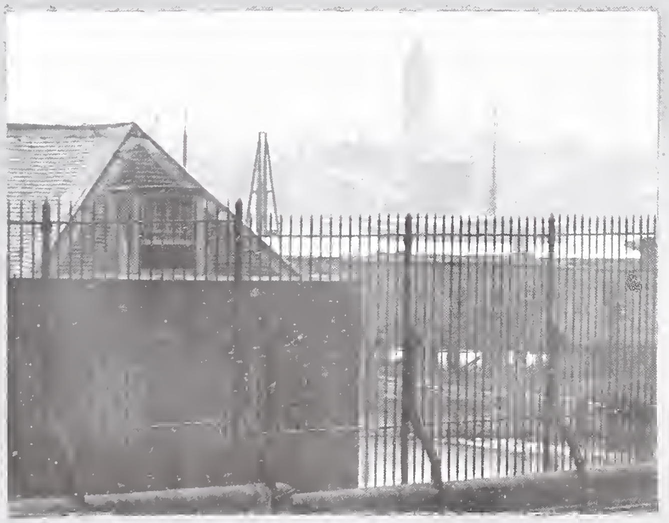
The following experiment will amply demonstrate this: A quarter-plate Cooke (5½in.) was fitted to a whole-plate camera in its normal position in flange on front. Some distant buildings were focussed, and the camera extension was found to measure 4½in., the lens mount itself making the other inch.

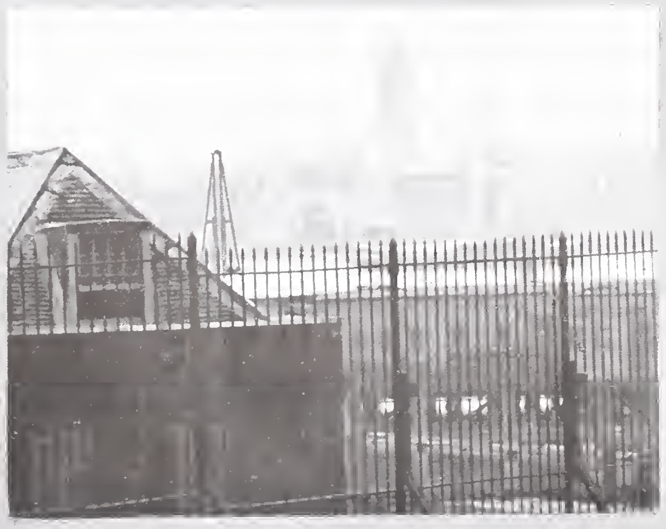
The circle of light, as shown on the ground-glass, measured 8¼in. in diameter. This, of course, would be ample for a half-plate, but out of the question for a much larger size. The lens panel of the camera with the lens *in situ* was then reversed, so that the lens pointed into the camera. The image was refocussed, and the camera extension was now found to measure *6½in.*, or an inch more than the focal length of the lens. The circle of illumination, as measured on the ground-glass, was full 9¼in. in diameter—nearly sufficient to cover a whole-plate, and an immense gain in covering power on that obtained by using the lens in its normal position, to say nothing of the very material advantage gained over any structural disability of the camera front and bellows in regard to the use of the rising front when using such a short extension as 4½in., as the extra two inches thus given at once allows far greater play. I can highly recommend this method of using the Cooke as a wide-angle lens, as few lenses not built specially for wide-angle purposes are capable of giving such a large and evenly-illuminated circle, and I may add no faults will be found with the anastigmatic and other qualities of the lens to the extreme margins of this circle. Should the

NEW METHODS OF USING THE COOKE LENS.









owner of a Cooke lens decide to use it thus, provision can be easily made to screw the lens into its flange from inside the camera, as the patent standard thread engages equally well from either side, and some sort of capping or shutter device (unless a focal plane shutter is already fitted to the camera) can easily be contrived to fit the front of the camera, and so cover the back of the lens; while if the camera has a behind-lens shutter, all that is needed is to fit another lens flange *inside* the camera, and blacken it, and when the lens is used reversed the shutter becomes a before-lens one. I usually employ a small square of black stiff card, with a round hole in it, to fit over the end of lens inside the camera, and so avoid reflections from the polished mount.

The long focus qualities of the Cooke lens are even far less known than the preceding methods, and certainly not taken advantage of in any form by the makers. It will probably come as a pleasant surprise to most users of a Cooke to known that, in addition to the method already mentioned of shortening the focal length of the lens by about twenty-five per cent., it can also be increased probably to much more than their present camera extension will ever permit of being used.

I will again describe some experiments with the quarter-plate Cooke before mentioned (5½in.), although in every case a longer or shorter focus lens would serve equally as well.

A distant view is chosen—preferably one with some well-defined stationary object, such as a church tower or monument—and a negative is taken of the view with the normal lens. Fig. 1 represents such a view, the church tower seen in the distance being about two miles away. Fig. 2 represents the same view taken from the same standpoint, but with the extension lens in place, making the focal length 8½in. A decided increase in size of the distant tower is observable, but more noticeable is that of the nearer objects, and also the fact that a much narrower angle is included, *i.e.*, less of the view. A pencil mark is now made on the top of the lens mount, across both the movable front lens mount and the main tube, and a similar line drawn at the bottom—this to indicate easily when a complete half turn has been made. The back lens is then unscrewed and removed entirely, and the front lens given two and a half complete turns (as indicated by the pencil marks). It will now be found that the lens is one with a focal length of about 10¼in. Fig. 3 shows a photograph taken under these conditions, from the same standpoint as fig. 1. The front lens is now screwed up one half turn, and the focal length will be found to have altered to 11½in. approximately.

Fig. 4 shows the resulting print. Another half turn again alters the focal length to nearly 14in. (fig. 5), and the great increase in size of the distant objects is very noticeable. It will probably be found that the limit of the extension of the quarter-plate camera used so far has been reached hereabouts, so to carry out the complete experiment I fit the lens to a long extension 15 × 12 camera, although a long extension half or whole-plate camera would serve up to a certain point. It is worthy of special note, however, that the 14in. lens (one and a half turns unscrewed) will be found to cover a 15 × 12 plate easily, although not at full aperture, as a certain amount of spherical aberration is introduced at the margins, to eliminate which requires stopping down. Quarter-plates still being used in the 15 × 12 dark slide for the purposes of comparison, the image is now refocussed with one turn only of the lens unscrewed. The focal length equals nearly 17½in., and the print obtained from the negative is shown at fig. 6. Another half turn gives a 23in. lens (fig. 7) and another *quarter turn* 26in. (fig. 8), while the front lens screwed right home, and the lens in its normal condition but lacking the back glass, gives a focus of approximately 30½in. (fig. 9).

A comparison of the last print with the first will demonstrate more clearly the possibilities of this property of the lens provided a sufficient camera extension is available, than any words of mine. It is also noteworthy that as the focal length increases, the lens will cover a proportionately larger plate. I would draw attention to the fact that in no case does the full aperture give quite the best definition. Stopping down effects this, and, of course, it must be borne in mind that all the relative stop values as marked are entirely altered each time the focal length of the lens is altered. The curious semi-fuzzy rendering of detail perceivable when the lens is at full aperture at these varying focal lengths, I have no doubt, would be hailed with delight, and made exceeding good use of by those landscape photographers to whom such an adaptable range of focus will strikingly appeal, and to whom the biting definition of the modern anastigmat is "taboo." Although I have dealt with deliberate half turns only, it is obvious that intermediate positions give an equally good focus at intermediate distances. It will also be noticed that as the focal length is made greater, the slightest turn of the front lens alters the focus. In fact, I might suggest that when the utmost enlargement is required, consistent with the camera extension available, the camera be racked out to its extreme limit, and the largest and sharpest possible image obtained by gradually unscrewing the front lens (the back one, of course, being previously removed).

I would commend this method of using the Cooke to the makers, who might be induced further to modify the mount of the "focussing Cooke" in such a way that it would be possible to unscrew the front of the complete lens one, two, or three complete turns to scale, which would not only make it useful for wide-angle work, as previously noted, but would render it invaluable as a long focus instrument in the manner I have endeavoured to describe.

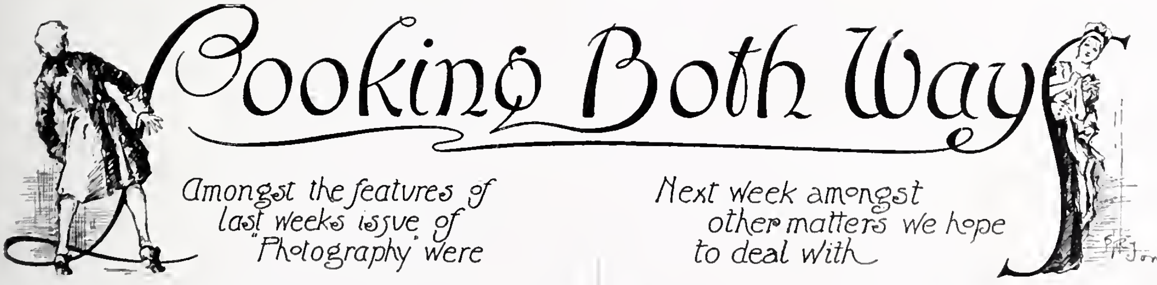
The following specifications of patents relating to photography have been published, and copies may be purchased at an uniform price of 8d., at the Patent Office, Sale Branch, 25, Southampton Buildings, London, W.C. The price of the specifications includes postage to any part of the United Kingdom. The additional postage to foreign countries is usually ½d. per specification. Postage stamps must not be sent on payment of any amount exceeding 11d. In ordering the name of the patentee and both the number and year of the patent must be given.

1902.

20,071.—Tingey and Voysey. Apparatus for intermittent exposures.

1903.

8,058.—Geiger. Portable camera stand.
8,395.—Sedleeky. Plate washing apparatus.
12,513.—Selle. Dyeing plates.
13,920.—Gros and Ostwald. Catalytic photography.


Looking Both Ways
Amongst the features of last weeks issue of "Photography" were
Next week amongst other matters we hope to deal with
S R Jones

"Side Street Photography." Written and illustrated by W. Percy Mail.

"A Hand Camera and a Windmill." Written and illustrated by S. L. Coulthurst.

"Photographic Book Plates," by James E. Masters.

Toning P.O.P. rapidly and uniformly.

Measuring shutter speeds.

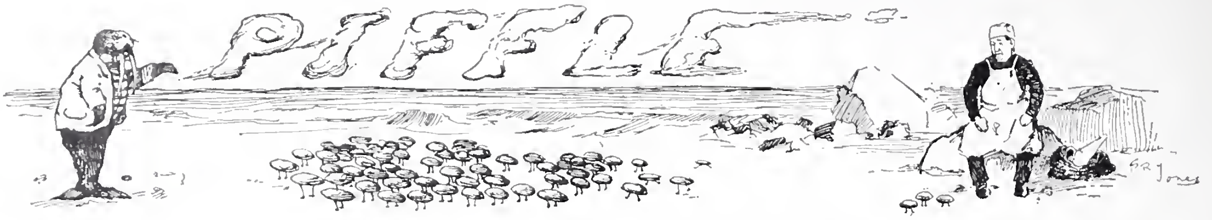
How to make photographic dishes.

Increasing the keeping properties of bichromated gelatine, etc.

"A Camera at the Pyramids." Written and illustrated by G. E. Thompson.

"Combined Baths containing Lead," by Professor Namias.

The newest of developers—Metoquinone. A description and some formulæ.



"The time has come, the Walrus said, to talk of many things."

IT has hitherto been my impression that the pictorial title headings that adorn these pages were drawn specially for the occasion, but I am rather dubious about the drawing for "Traps and Pitfalls." I have a vague idea that this is part of a block that was once used to illustrate the thrilling story of "Sweeney Todd, the Demon Barber of Fleet Street." I can only hope I am mistaken.

* * *

I do repent me that I once spoke lightly of so-called pocket cameras, for behold I have at last seen a good one occupying a place of honour in the window of Messrs. Sanders and Crowhurst, in Shaftesbury Avenue. It is called the "Blocknote." When I went inside to examine it I was informed that the camera would go in one waistcoat pocket and the six slides in the other. And it was so. But when I had got the lot safely bestowed in my vest and, suddenly remembering an important engagement, made for the door, I only succeeded in reaching the mat before I was hauled back and compelled reluctantly to disgorge.

* * *

I think that I shall try again, for the camera is a little beauty, and only costs (if purchased in the usual way) about a sovereign per ounce. It is the sort of thing for Edwin to give Angelina. The only improvement I can suggest would be the addition of a monogram in diamonds, and, say, a ruby heart with a golden arrow stuck in it. "Oh, Edwin!"

* * *

Upon my word, I wish I still possessed the first camera I ever had. That was something like a camera.

* * *

Not much like one perhaps, but something.

* * *

That first camera of mine may be described as consisting of a cloth-covered box opening at one end to admit of loading. Its capacity was one plate. It had a Beecham lens, that is, a pill-box with a pinhole jabbed through the bottom. This lens was richly bedight with gold paint. There were no means of telling what you were getting on the plate—you opened the box and shut your eyes and took what Beecham gave you. And I can honestly say that I got some results with that camera that I have never seen equalled. The cost of the whole outfit, including sufficient plates and chemicals to make a fool of you, was only 325 dollars. No, I'm wrong. I am confusing it with the American product of head, heart, and hand. The price was half a dollar.

* * *

Some of those who vote any photographic apparatus a nuisance if they cannot put it in their card-case would be amazed if they could see someone start off for a day or two's photography equipped in the fashion of the early sixties; and I think that the list of what was then necessary is worthy of record in these up-to-date columns for the enlightenment of the younger generation, who think that a camera weighing a few ounces, a spool or two of film, and half-a-dozen tabloids constitute a photographic burden. And in case some unbeliever should think I am romancing I hereby declare that I take the list from a standard work of the period.

* * *

The camera was a substantial timber erection supported on legs that would do credit to an elephant, and the lens was of sufficient dimensions to demand a case of its own slung over the shoulders. Then there was the dark tent—a fearsome structure of poles, boards, fabric, ropes, and tent pegs, the whole scaling from 12 lbs. to 20 lbs. The carrying cases, at least three in number, were mighty leathern contraptions, gigantic in bulk and ponderous in weight.

The following are the more important of the necessary accessories—(take a long breath).

* * *

The nitrate bath, filled with solution, together with an extra half-pint of the solution in a glass bottle; spare dipper for bath, with marine glue to repair same when fractured; glass plates in box, with any number extra; linen cloth and leather; broad camel-hair brush; pneumatic plate holder; 2 oz. measure; two or three small developing glasses and dropping bottle; two hand cloths, and sponge or tow for wiping; half a quire of blotting paper; 12in. by 10in. gutta-percha tray; water bottle, with supply of water; scales and weights; gutta-percha funnel; a yard of yellow calico; a yard of black ditto; a ball of string, and a packet of pins.

* * *

Pause here for breath.

* * *

Carbonate of soda, 1 dram; plain collodion, 15 ozs.; iodising solution, 5 ozs.; cadmium collodion, 5 ozs.; iodiser, containing bromide, 1 oz.; two 4 oz. stoppered bottles for collodion; two or three spare ditto, various sizes; bottle of varnish; ether and alcohol, mixed, 3 ozs.; absolute alcohol, 3 ozs.; spirit of wine, 3 ozs.; pyrogallic acid, ½ oz.; glacial acetic acid, 4 ozs.; citric acid, ½ oz.; sulphate of iron, 1 oz.; cyanide of potassium for cleaning fingers; hyposulphite of soda, 8 ozs.; saturated solution ditto, 6 ozs.; spare bottles, many and various.

* * *

You observe that there is no mention of a change of raiment, umbrellas and sticks, golf-clubs and the other trifles now considered necessary by the holiday-maker. No. The above articles constituted the pocket outfit with which our fathers and grandfathers took the field for a three days' photographic holiday. And some of us stick out for aluminium fittings to our 2 1-16in. by 1 3-32in. outfits.

* * *

Advertisements make excellent good reading, and some of them contain as good a story as a three-volume novel. Here are some familiar types of photographic ads.

Young widow wants a first-class camera and complete outfit. Exchange old invalid chair, set of false teeth, two wigs, and artificial leg (slightly damaged). No rubbish wanted or offered.

An amateur would be glad to sell some of his early quarter-plate negatives for 5s. each.

Box of plates, about ten or fifteen years old, very ripe; also several ounces of hypo. What offers?

Very rare, No. 1 of "Hocus," the best photographic paper ever produced, price £5, bargain.

How to make a high-class magic lantern from a biscuit box, a policeman's lantern, and a paraffin lamp. Full instructions, post free, two shillings.

Box camera, solid mahogany, suitable for a pavilion for cricket club.

12 lb. lens, been in family for years; one glass missing, the other cracked; exchange jewellery.

A fine lot of snapshotting tools, late the property of a photographic gent; wonderful cheap. Apply Bill Sykes, No. 1, Crook Alley, Snatchem Street, Whitechapel. (Give three knocks. Beware of the dog.) THE WALRUS.

SUBSCRIPTIONS.

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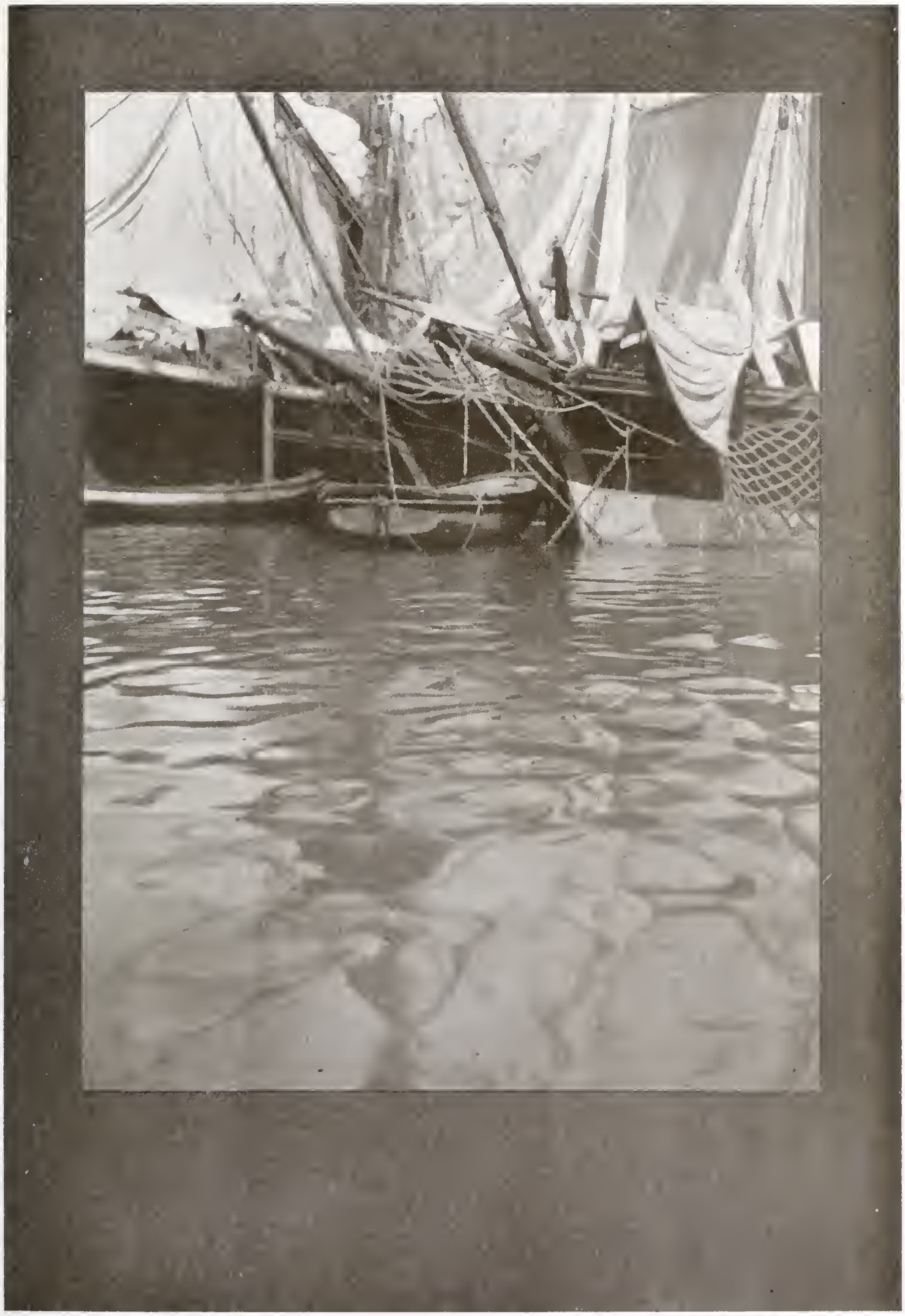


A CORNER OF THE PORT. BY DR. E. G. BOON

A CAMERA AT THE PYRAMIDS

BY G. E. THOMPSON.

THE pyramids of Gizeh stand out in the desert about eight or ten miles from Cairo, a good road shaded by avenues of locust trees extending almost the whole distance. Along it we have the choice of various means of locomotion—donkey-back, bicycle, carriage, or electric tram. Leaving the hotel in Cairo at nine in the morning, after driving through the modern town, which reminds one of Paris, but that it has a motley eastern crowd in its streets never seen in the city on the Seine, we soon cross the Nile by a long iron bridge, and thence drive through a shady avenue for almost the whole distance. The road for the most part runs along a dyke above fertile lands, bright with green crops and with canals. The rock-built giants are soon visible, their lofty summits, as the mist clears, enveloped in the clouds. At the end of the avenue, and within a mile of the pyramids, we reach the confines of the desert and alight at the Mena House Hotel, where in due course we are to have lunch.

After mounting the rocky platform on which the pyramids stand, each visitor, as he reaches a small office, is provided with a ticket for climbing the great pyramid, and also another for penetrating the interior, if so inclined. Then, defenceless and alone, each victim is delivered into the hands of two bare-footed Bedouins, who, until his torments are complete, claim him for their own. The two demons who are to control my fate pounce at once on their helpless and defenceless prey, grasp my hands, and hurry me off to my doom. They speak a smattering of English, and on reaching the foot of the giant, direct me to hold on to them both and to follow exactly in the footsteps of the foremost. Stones three or four feet in height confront us, but they are as naught to these desert fiends. Up they go, hoisting their bale of goods after them. In vain I plead that I am an orphan, loosely put together, fragile, and the like; I might as well appeal to the stones themselves.

It has no effect, and I feel that my very soul is not my own. I resign myself to my fate, and cease to care what becomes of me. We are at the north corner, and in less time than I have taken to tell, have reached a height of about sixty feet. Now their tactics change, and they hurry crab-like along a ledge till they reach a spot opposite the doorway to the interior.

Are they about to consign me to the silent tomb?

No, they stay not a moment, but ascending a few feet, race their victim back again to the corner whence they have so lately retreated. What does it matter, it is all in the day's work. Suddenly the wretches proclaim a rest, sitting down on the extreme corner of the pile, their prisoner between them. They have been there before, and know the frailty of the human mind. For could I have been perched there alone, I should probably have found the shortest route down by jumping off into space. Such is my nature when on a dizzy height, and it is a humiliating thought that I owe my life to those two fiends.

I turn my head and gaze upward to where the great four-sided staircase vanishes to a point somewhere in the sky. The mists have rolled away, and the stones stand out clear cut against the blue. Its height grows as we proceed. The quicker we climb the sooner we shall be down again, so the treadmill begins again till halfway up, when another rest is proclaimed.

Here I find Miss M——— seated between her own particular gaolers. She looks as happy as the morn, and as fresh as a newly-gathered moss rosebud. Verily, some of these ladies astonish me. Another rest or two, and we land on the flattened summit four hundred and eighty feet above the ground, and sit down to enjoy the wonderful view.

I have looked out from the slits in the ball above the dome of St. Peter's in Rome and have seen men beneath as flies walking. But sitting here, I am seventy feet higher than that. Below stretches the great sandy desert. The fertile valley and palm forests of the Nile, the Mena House Hotel, like a little toy building; the long avenues and the great city of Cairo, with its many minarets, are all below, and far away in another world.

One of my guides breaks the silence by telling me in a low quiet voice that he is the man that took Mark Twain up, and who ran down, crossed the sand, ascended the second pyramid, and returned to the top in ten minutes. If I will pay him he will repeat the feat now.

It so happened that my friend "The Scientist" was sitting by. He has a way of being first in everything, and catching sight of me, for I was too much out of breath to announce my arrival, he informed me that one of his men was the identical guide that ascended with Mark Twain.

Really! Is that so?

We confront the two men, but their serenity is not in the least disturbed; they merely regard the distant view with greater attention and say nothing. But it were better policy to change the subject, so my guileless friend dives his hand into his pocket and draws forth three very rare, battered, mouldy, genuine old coins.

Will I give a shilling for them? I say yes.

Done again! for when I once more reach the surface of the terrestrial globe I find a friend who has a dozen of these very rare battered, mouldy, genuine old coins, and for the lot he only paid sixpence. But then he is a Yankee, and Yankees are proverbially sharp.

Possibly it is the rarity of the atmosphere at so great a height that turns an honest knave into a gross Ananias! However that may be, I thought it better to get down as soon as possible, for I wished to turn to and photograph, and the downward course loomed ahead as a nightmare.

If you want to know what the sensation of looking down the side of a pyramid is like, you may get a faint notion—a very faint one—if you go and stand on the brink of a graving dock. There, of course, the stone blocks are regular in height and width, like steps, whereas they are not so on the pyramid. If you look at a man from the top of the graving dock, he looks like a man and not a peg for a cribbage marker; but from the summit of the pyramid it is different.

Unless you are a steeplejack or a Simon Stylites, it is better not to look right down, but to take your guide's advice on setting off: "Mind your steps, don't look far, but only at the next stone."

Coming down is much worse than going up, and I meet with numbers of people on the upward way. Poor things! They stop and anxiously ask whether it is easier to go up or down. I have not the heart to tell them, yet, like George Washington, I scorn to tell a lie, and so I say it is all right coming down if you only look at the stone in front and no further.

On reaching the level of the entrance to the interior, although I feel somewhat exhausted with what I have gone

The first pyramid and Sphinx

through, I determine on going inside. It is now or never.

My two Bedouins appeared to be rather astonished, asking whether I would not like a rest first. The matter being settled, they at once hurried me along the ledge to the little crowded doorway. It was like the entrance to a great beehive, and the human bees were stooping and entering by dozens. In five minutes I repented my rashness.

Take my advice, and do not enter the pyramid on a public holiday, for, of course, this was one—the Feast of "Bairam," or something of that sort.

"Where wilt thou lead me? Speak! I'll go no further."

I was in the heart of the great pyramid of Cheops, and I was not slow in repenting having entered the fatal door. Like the ghost in *Hamlet*, I was now "Doom'd for a certain term to walk the night," but the ghost had the advantage, when you come to think of it, for it is no great hardship to walk the night out in the fresh air under a canopy of stars, to say nothing of the probability of a full moon at the time. But to be in the heart of the pyramid was another matter. Passages so low that you had to walk nearly double, scarcely a lung-full of air, and what there was cooked up to a heat of 80 degrees.

On the second pyramid.

The darkness of the darkest night was nothing to the blackness with only one wretched little rushlight to make it visible. I had not gone far before I felt like giving £20 down if I could only leave my prison-house.

Owing to the slanting nature of the pyramid, the doorway stands a little back and the path slopes down to it. Here the older of the two men proposed to leave me, as I should only now require one guide. I paid them a shilling each, and, at the request of the older man, I wrote him a testimonial and said good-bye, but not before he had reeled off an address as follows:

"You are my friend: I like you: you do well: you come again: you ask for me: name Mahmoud Abraham: took Mark Twain up, ran down pyramid and up second pyramid and back, all in ten minutes! Could do it now. Good-bye, you are my friend." Squeezes my hand, turns to wipe away a tear, gathers up his skirts, and is off on the war trail after another victim.

I take a look at the younger man; he has only acted as second so far, but he has now the full control of my fate. I like his looks and his gentle, quiet speech, and I ask his name. Mahmoud Abraham. Sheik Mahmoud Abraham. No doubt son of the old sheik who has just left.

Before entering, let me relate an incident from that well known book, "Eothen," by Kingslake. He had just emerged from the interior of this pyramid. "My donkey-boys said they had overheard this fellow (his guide) propose to the sheik to put me to death whilst I was in the interior of the great pyramid, and to share with him the booty. Fancy a struggle for life in one of these burial chambers, with acres and acres of solid masonry between one's self and the daylight. I felt exceedingly glad that I had not made the rascal a present."

At the low doorway Sheik Mahmoud Abraham tells me to buy a rushlight, and after lighting it, he grasps my hand, saying: "Take care, keep head down," and hurries me off at a great rate down a steep incline only three feet eleven in height. So slippery is the road that I am in constant fear of falling. Sheik Mahmoud often risking his naked feet against my foot to keep me up.

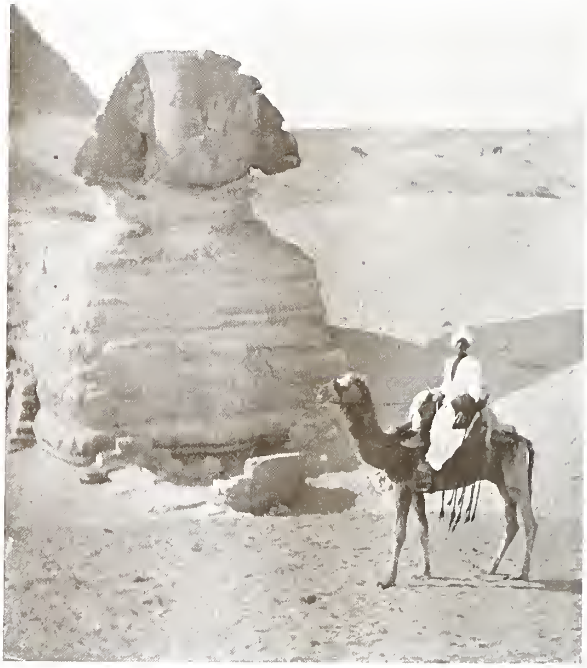
"Now, walk sitting," and for some distance I crawl nearly on all fours. At the end of this passage we take a sudden dive down a dark passage which Sheik Mahmoud illuminates momentarily with magnesium wire, and when it dies out we are in greater darkness than before.

"Ready?"

"Yes."

I am again grasped, and instead of being hurried down as before, am run up a worn slippery, steep passage for a hundred and twenty-three feet, so bad and steep that Sheik Mahmoud Abraham, not daring to stay the impetus, has to pull hard.

I am not given to fainting, but from the scarcity of air, the hard run, and the fatigue I had previously gone through while ascending the pyramid, I had to keep a strong control over my nerves to prevent going off. In a few broken words I claimed a rest, while the situation in all its horrors flashed through my reeling brain. Here I was, in the heart of a mountain scarcely able to breathe, my only companion an unknown Bedouin sheik; the narrow path leading to breath and liberty blocked by numerous persons all determined to breathe, who also excluded the air and rendered what there was more foul. That moment was the most awful of my life, and I felt that I would have cheerfully given another £20 (or an I.O.U.) to be on the outside once more.



The Sphinx.

I was conscious that what little air there was reeked with dust, candle smoke, and carbonic acid, caused by the proximity of so many other victims. If you are intent on penetrating the heart of the pyramid, avoid like poison a public holiday, be it the Feast of Bairam or anything else.

I told Sheik Mahmoud Abraham I would wait, would on no account go further, and so I gradually came round. When I felt better, the skeik said in his soft, winning tones, "Won't you go to the Queen's Chamber, not far, and level passage?"

"All right; better now."

So we set off slowly for another hundred and twenty feet, the passage at the beginning being only three feet nine inches high, but gradually becoming higher, and ending in a chamber with pointed roof, twenty feet four inches in height, and eighteen feet by ten in length and width. This chamber is almost under the central point of the pyramid.

"Very good; now take me back as quickly as possible."

We stoop and run. Reaching the commencement of the passage once more, Sheik Mahmoud Abraham wants me to ascend another long incline to the King's Chamber. Not for the whole world would I do it; what I wanted was to get out.

Thereupon Sheik Mahmoud Abraham requests me to sit down on the brink of a dark pit, placing my hands in two holes at the sides that I should not fall in, and yet at the same time that I should be able to watch him as he descends with our only light down a well to a tomb, heaven knows how far. I am soon in the dark, and having lost sight of him can only see the lurid glare of his light on the rough walls. I dare not move, and can just hear a calm, quiet voice proclaim that he is going down much further.

"No, you're not," I cry. "Not if I know it; come back at once."

How do I know that I shall ever see the wretch again? How do I know that I shall not end my days sitting in the dark and ready to fall down a bottomless pit?

"All right, if you don't like it, I come back now," and up he comes.

Much relieved by his reappearance, I travel on till we come to the top of the little precipice aforesaid. Here a row produced by a babel of tongues was going on. Looking down we see a crowd of men and women with their lights, engaged in a great altercation, and blocking the narrow and only exit. Sheik Mahmoud Abraham tells me to keep back and wait while he joins in the row. He does no good, but he will not let me climb down. The row continues, but at a propitious moment he suddenly hoists me like a bale of goods on to his shoulders and down he climbs with me in the air. Soon after that we see a gleam of daylight, feel a slight sensation of air, and at the same time meet more victims hurrying to their doom.

Was it a freak of imagination, or did I see the fair form of Miss M———, steadily pursuing her way amid that crowd, her lamp burning, all trim and shipshape as usual? Did I stay to warn her? No!

Did my conscience smite me? Not at all. For what saith Whateley? "Woman is like the reed which bends to every breeze, but breaks not in the tempest." She was not made of the stuff that would break in the tempest, so I let her pass, and I have no doubt that she would go bravely through with it all, even unto the tomb of the king high up into the heart of the pyramid. Conscience smote me not. I felt sorry for her; that was all.

Arrived at the doorway I soon scramble down the rocks to the ground, give Sheik Mahmoud Abraham one shilling, shake hands, and say good-bye. He follows me, talking gently the while: "You good man: I like you: you come again: you remember Sheik Mahmoud Abraham," and so on, and so on, and so on.

QUESTIONS AND REPLIES

Readers wishing for information upon any specific point in connection with photographic theory or practice are invited to make use of the "query form," which will be found amongst the advertisements. All enquiries must comply with the conditions stated upon the query form; those which do not do so are neither acknowledged nor answered. All enquiries are answered by post. We cannot undertake to make replies in the paper. We print below from time to time a selection from the queries we receive, and our replies.

COPYING WITH A PINHOLE.

I have a fifteen by twelve enlarging camera, and wish to copy a painting to that size, but the lens I use with it will barely cover a whole-plate when copying direct. Can good results be obtained with a pinhole, and if so, what exposure should be given? I use an actinometer in ordinary work.

A properly made pinhole, set at its best distance from the plate, will give very fair definition. Once the diameter of the pinhole and the extension of the camera are known, the exposure required is easily calculated by ordinary methods. Say, that the diameter of the pinhole is one-thirtieth of an inch, and the extension of the camera is sixteen inches, the exposure for the subject and plate should be found by the actinometer for f/30, or what is easier and quite near enough for f/32. This exposure would be correct for an extension of one inch, but must be multiplied by the square of the extension. Assuming that six seconds would be correct for f/32, then that multiplied by 256 (the square of 16) gives twenty-five minutes as the exposure at sixteen inches.

A SITTING-ROOM AS A STUDIO.

I am living on the opposite side of the road to that on which the sun falls, yet I have fair light in the sitting-room on the first floor. The room is long and narrow, and lit by two windows. Can you tell me the best way to use it as a studio?

For good work there should be four or five feet behind the sitter and the background, and the window should still be in front of him, though on one side. In all probability this is not possible under the circumstances. An ordinary room makes as a rule but a poor substitute for a studio. The windows are generally too narrow, and too near the ends of the room. The best that can be done is to place the sitter near one end and to block up one of the windows. By placing the camera in the corner of the room away from the window, and by placing the sitter to face diagonally across the room, the window farthest from him may be used. The light will be poor in quantity, but will be better diffused than if the nearer window were used. A white reflector to throw the light on the shadow side of the face must be placed just outside the limits of the picture. By working in this way fair results may be obtained, though the exposures will necessarily be prolonged.

INTENSIFIERS FOR UNDER AND OVER-EXPOSED NEGATIVES.

The two formulæ for uranium intensifiers enclosed differ very considerably, one being ten times the strength of the other. Which would you recommend for negatives which have been under-developed and possibly over-exposed, and are consequently thin and wanting in contrast?

The difference between the formulæ quoted is only one example of the variations that exist in general practice. The proportion of uranium to potassium ferricyanide in each formula is the same, though the proportions of water and acetic acid vary considerably. Practically the only difference which increasing or decreasing the proportion of water effects is to alter the time taken by the solution to do its work. To ensure absence of yellow stain it is desirable to use more acetic acid than is given in either of the formulæ. A good working solution is: Uranium nitrate, 4 grains; potassium ferricyanide, 4 grains; water, 1 ounce; and acetic acid, 1 dram. The solution may be used as long as it keeps clear, but as it rapidly deteriorates after a plate has been immersed in it, it is distinctly advisable to make up a fresh solution each time it is required. The uranium intensifier is by no means the best for use with over-exposed negatives, though well suited for those that have been under-exposed. For negatives of the type described, we should recommend what is called the Monckhoven intensifier, which strengthens the lights more than it does the shadows.

Three solutions are required as follows: A.—Mercuric chloride, 100 grains; potassium bromide, 100 grains; water to make ten ounces. B.—Silver nitrate, 100 grains; water to make ten ounces. C.—Potassium cyanide, 100 grains; water to make one ounce. C is slowly added to B with constant stirring till the white precipitate which first forms is nearly dissolved. As an excess of the cyanide would make the solution unworkable, a few particles of the precipitate should be left undissolved, and the clear liquid decanted off. The negative should be bleached in solution A and thoroughly washed. It is then immersed in the silver cyanide solution (B and C), which will immediately blacken the surface and gradually blacken the image down through the film. On turning the glass side of the negative upward the high lights will be seen to remain white for a minute or so after the shadows have darkened. The moment the lights are seen to blacken the negative should be held under the tap or plunged into water. If the cyanide is allowed to act longer the negative will speedily return to its original condition. It will be seen that the action is to some extent selective, the shadows are rapidly blackened, and before the highlights assume full density the shadows again begin to weaken, with the result that the lights and the half-tones alone are strengthened, giving increased contrast to the negative.

ACTINOMETER PAPER FOR CARBON WORK.

What is the best paper to use in the actinometer when printing in carbon?

Most people use a strip of ordinary gelatino-chloride paper. It has been pointed out, however, that different brands of that paper vary in sensitiveness, and that as it is sensitive chiefly to violet light while the carbon tissue is sensitive also to blue and green light, the actinometer would not be a sure guide under varying conditions of light. For these reasons some workers sensitise a strip of plain paper in the bichromate bath at the same time as the tissue, and to make the conditions identical and to enable the numbers on the strip to be seen, it has been suggested that the paper should first be coated with gelatine. We have never experienced any trouble in working with gelatino-chloride paper in the actinometer that could not be overcome in development, but if bichromated paper is preferred a strip of the thin final support used in the double transfer process might be sensitised at the same time as the tissue, and would save the trouble of gelatinising paper specially for the purpose. Those who are in the habit of modifying the strength of the bath to suit negatives of different gradation might find this plan desirable, as the time required in printing certainly varies to an enormous extent under such circumstances.

MOUNTING PRINTS.

Please give me a recipe for mounting quarter and half-plate prints in large quantities? Can I mount P.O.P. prints without drying them, or should they be dried and again wetted before mounting? Ought I to squeeze the water from them on plain glass or not?

Starch paste a little thicker than is used in the laundry is commonly employed by trade mounters, and as it will not keep long in the ordinary state, and as it is not desirable to use an antiseptic with it, particularly anything of an acid nature, it must be made up fresh each day. A sufficient quantity of the dry starch should be put in a bowl and wetted with a little cold water, when the lumps will crumble into a formless mass. To this more water is added, with constant stirring, till it forms a fluid between the consistency of milk and cream, free from knobs and lumps. Into this water which is absolutely boiling is poured, the stirring being continued. Presently the grains of starch will burst, and the white liquid will thicken and clear to an opalescent state. Properly made this starch paste should have good adhesive powers, and when cold is ready for use

When large numbers have to be dealt with, the best plan is to allow them to dry, after which they may be trimmed to size. Prints that are trimmed before toning are seldom quite perfect at the edges, and as the gelatine is much softened during the operations it has passed through, it is liable to injury in mounting. After trimming the prints should be soaked in cold water for a few minutes, laid one on top of the other face downwards on a sheet of glass, and the surplus water squeezed out. The paste should be well rubbed into the paper with a stiff brush or with the fingers, and after placing the prints in position on the mount they may be smoothed down, and any paste that exudes from the back wiped off with a clean damp sponge.

CALCULATING THE EXPOSURE WITH A TELEPHOTO LENS.

Please give a simple method of calculating the exposures wanted with a telephoto lens? I would rather not have any references to optical rules.

A very simple method of calculating exposures, and an appliance to assist in doing so, was described in a note by Mr. Lovegrove in our issue for May 9th. An even simpler method is to focus the lens without the negative attachment upon some moderately distant object, and to mark the position of the camera front, or back if it is the latter that rocks to and fro, on the baseboard. At the same time the exact size of some object in the view should be marked on the focussing screen. The negative attachment should then be added, and the camera adjusted till the image is twice the size linear that it was at first, and this second position marked. The extension of the camera for three, four, five, and six times the magnification should also be noted. It will then be an easy matter to tell by a glance at the baseboard the degree of magnification obtained in actual work. The exposure required for the subject, light, plate, and stop is then calculated in the ordinary manner, and multiplied by the number of times of magnification squared. If, for example, the actinometer gives the exposure for a given subject as half a second, and the magnification as three times linear, the exposure will be increased 3^2 or nine times, and so will be four and a half seconds.

COPYING A PRINT FROM A NEWSPAPER.

Can you tell me how to make a negative from a print in a newspaper? What plate should be used, what would be the exposure, and what is the best developer?

If the print has matter printed on the back it is desirable to paste it down on a sheet of black cardboard. This will degrade the whites to some extent, but will bring them to an uniform tint in which the printed matter from the back will not show. It should then be attached to an easel or to a wall where it can be equally lit. This is a very important matter, and is not easy to accomplish indoors if the print is at all large unless it faces the window. If out of doors it must be protected from the wind, and in either case it is not desirable that direct sunlight should fall upon it.

The best plate for the purpose in question is a photo-mechanical or a lantern plate, but any slow plate may be used. Similarly any developer may be employed, but glycin and hydrokinone are each of them clean working and simple in use. The amount of alkali should be kept as low as possible without unduly prolonging development. Glycin four grains, sodium sulphite twelve grains, potassium carbonate twenty grains, and water one ounce is a good formula.

Very little assistance can be given in the matter of exposure, as the speed of the plate, the scale of the copy, the size of the stop used, and the intensity of the light all have to be taken into consideration. Using a very slow plate, stop f/16, and copying full size in diffused light at this time of the year, one second would be somewhere about right. An actinometer should be used, or in its absence one or two trials must be made. Development should be stopped before the white lines in the negative veil over. In all probability the negative will be very thin after fixation, and it must be intensified.

NOTICE TO ENQUIRERS.

Answered by post: J. T, E. Bennett, W. H. Mason, Karl, T. P. Basley, Investor, Annie Maw, Ignorant, E. Bongers, E. R. N., T. H. T., G. Macdonald, E. D. Ravon, Ilford, Videx, T. Crowder. A. Lloyd, Novice, H. Norgate, Shareholder, T. S. Lewis, Miss Faulkner, Newcastle-on-Tyne, S. Heap, W. T. de S. Chater, Amidol, A. Lea, E. Buckley, J. C. Telford, Focal Plane, L. J. Dell, New Barnet, G. A. S., Mrs. Giddens, H. J. Greenfield, F. A. Jephcoti, Kodaker, C. R. B., Sapper, An Amateur Reader, W. F., A Subscriber from the First, K. Messent, Westcliffe, E. G., H. Rooke Ley, Irishman, Philip Moxon, T. W. Lovegrove, F. Bayley, Ordinary Shares, J. C, C. Marshall, Acetylene, Professional, G. Shutt, Ernestine, C. W. I. Hughes, Southampton, D. Doodbridge Biggs, G. O. T.

CHEMICAL & PHYSICAL NEWS

A weekly summary of those sciences upon which all photographic processes are based

Specially compiled for Photography by Prof Fergus J McInnes

A NEW COMET.

A NEW comet was discovered by Borrelly at Marseilles on June 21st in Right Ascension 21h. 52m. and Declination 8m. 10s. Its nucleus and tail have been observed. It was also observed at Lick and at Corleston College observatories.

RADIUM AS A SOURCE OF SOLAR ENERGY.

DR. W. E. WILSON, writing in *Nature*, makes another suggestion as to the source from which the sun derives its energy. The extraordinary discovery that radium has the property of radiating heat without itself cooling down to the temperature of surrounding bodies, he says, may possibly form a clue to the source of energy in the sun and stars. Taking the Curies' observation that one gramme of radium can supply 100 calories per hour, he thought it would be of interest to compute how much radium would suffice to supply the solar output. According to Langley's observations this is equal to 828,000,000 calories per square c.m. per hour, and he finds that 3.6 grammes of radium per cubic metre of the sun's volume would supply the entire output. It may be that at the solar temperature radium would prove to be more energetic, in which case much less would be required.

FLUORINE.

SPECIAL interest has been aroused by the examination of the properties of fluorine, rendered possible by recent improved methods in laboratory practice. Although the existence of this element has been proved, the difficulty of isolating it in a state suitable for examination was so great that we practically knew nothing of its properties. Modern application of electrolysis, together with the extreme cold available in modern laboratories, have enabled a thorough research to be made, which has already been described in these notes. The *Scientific American* gives a very interesting account of the methods employed by M. Moissean to produce fluorine by the electrolyses of hydrofluoric acid. To make the acid a conductor a small quantity of fluorhydrate of fluorine was added to it. The electrolysis takes place in a long copper tube of a U shape. Each of the branches was closed by a screw stopper formed of a copper screw which was bored out, and has fitted into it a cylinder of fluor spar. Through the latter pass long platinum rods which serve as electrodes. Fluor spar is used to insulate the electrodes from the tubes, as most other bodies are attacked by the fluorine. The stopper closes the top hermetically by means of a lead washer placed between the head and the top of the tube. The electrode is enlarged at the bottom so as to resist the action of the electrolyte for a longer time. At each side of the U tube is a small platinum tube for taking off the gases as they are liberated at each pole. In his first experiments M. Moissean employed a platinum tube, but the expense was so great that he looked out for a cheaper, and chose copper, because it is but little attacked by hydrofluoric acid; in fact, it becomes coated with a thin insulating coating of fluoride of copper. But for the same reason copper electrodes could not be used. The apparatus was placed in a vessel filled with methyl chloride, which keeps it at a temperature of — 23° C. This is placed in an outer vessel containing fragments of calcium chloride to keep the surrounding air dry, as dry air is a non-conductor. To collect the vapour he uses a small worm and condenser tube of platinum, placed in a second vessel containing methyl chloride. Nearly all the hydrofluoric acid vapours are condensed here, and remain in the lower part of the vessel, whilst any that might remain are absorbed by a series of platinum tubes placed at the end of the apparatus, and containing sodium fluoride, which absorbs them very energetically. Thus the fluorine gas comes out in a state of great purity. With a current of fifty volts and fifteen ampères, fluorine is produced at the rate of five litres per hour, but the experiment cannot be made for more than fifteen minutes at a time, as the apparatus heats up rapidly. He was thus able to collect several litres of the gas, which enabled him to make the experiments previously described. When the current passes hydrogen is given off at the negative pole. Fluorine as it passes off from the apparatus is a seemingly colourless gas, with a penetrating odour resembling that of chlorine, and attacking the mucous membrane. The gas is very energetic, and its chemical activity is superior to that of all other simple bodies. Gaseous fluorine was also studied as to its physical properties. Its density was found to be 1.26. It appears at first to be colourless, but when viewed through a tube two or three feet long, was found to be of a marked greenish yellow, distinctly lighter than chlorine.

THE ORIGIN OF HELIUM.

IN the *Philosophical Magazine*, Rutherford and Soddy point out that the almost invariable presence of helium in minerals containing uranium indicates that that gas might be one of the ultimate products of the disintegration of the radio-active elements. Rutherford, moreover, determined the mass of the projected particles which constitutes the "α ray" to be twice as great, approximately, as the hydrogen atom—an observation which points in the same direction. Then "α" particles are absorbed by solids, and should accumulate in the solid salts of radium and in radio-active minerals. Professors Ramsay and Soddy in a recent issue of *Nature* make a further communication on the subject. They have been engaged for some time in examining the spectrum of radio-active emanations from radium, and during the week the opportunity offered of examining the gases excluded by twenty milligrammes of radium bromide which had been kept for some time in the solid state. These gases, which are continuously generated, have been already partially examined by their discoverer, Giesel, and also by Bodlander, and found to consist of hydrogen mainly, with some oxygen. They find, however, that after the removal of the hydrogen and oxygen from the gases evolved from twenty milligrammes of radium bromide, the spectrum showed the presence of carbon dioxide. On freezing out the carbon dioxide, and with it a large proportion of the radium emanations, the residue gave most unmistakably the D^3 line of helium. This was confirmed by sealing off the tube and comparing with that of a helium tube. The observation, if confirmed, substantiates the theory already mentioned, and brings ordinary methods to bear on the changes occurring in radio-aotive bodies. In a supplementary note they state that they have repeated the experiment with a freshly prepared thirty milligrammes of radium bromide, and with entirely new apparatus, and fully confirmed the results.

A NEW BACILLUS.

M. EICHHOLTZ, a bacteriologist and chemist, has isolated and cultivated a new bacillus, to which he has given the name of Bacillus Frage. It possesses the remarkable property of imparting to the culture medium in which it thrives a strong flavour of the luscious strawberry. M. Eichholtz first isolated it in milk, and the liquid, which he had the courage to taste, had a pronounced strawberry flavour. It conveys this peculiar property and flavour to other liquids and to some solids. Although the potato is a favourite culture medium with the bacteriologist, in this instance it was not a success, although mashed. The milk was found to be peptonised, and all the albumenoids were rendered soluble.

Correspondence
For the free discussion of all matters of general interest to Photographers
S.R. Jones

The Editor is not responsible for the opinions of his correspondents.

THE SALON AND THE R.P.S. LOAN COLLECTION.

Sir,—As my name occurs in the list of those declining to exhibit in the above loan collection, I would like to make a short defence, as I hate to be thought narrow or small minded, and as Mr. Hinton's editorial has raised that accusation against us Salonites, I venture, quite unofficially and "off my own bat," to refute the charge.

It seems to me that as a really representative loan collection exhibiting the progress made in pictorial photography would not be possible apart from the members of the linked ring, and as the linked ring is a corporate body existing only for the promotion of that side of photography, the proper course for the R.P.S. to have adopted was for their official chief to have communicated with our official chief, our acting hon. secretary, suggesting or inviting our co-operation in their proposed loan collection (which, however, I think should have been held at the time of the jubilee meetings, and have been wholly retrospective in character—all friction of an unpleasant order would thus have been avoided). But for the R.P.S. privately, by special circular, to ask our members individually to contribute to a collection held at the same time as our own annual exhibition of work of a character to show the progress of pictorial photography—the special and only thing we band ourselves together to foster and promote—is, to say the least, invidious, tactless, disrespectful, and lacking in that dignity a royal society might easily afford and aspire to.

We are but a small body of earnest art students (however cheeky that may sound to some who are not members), working specially and wholly, since our founding, for the recognition and advancement of pictorial photography. We, the English members, pay our own expenses, asking nothing from outsiders or exhibitors—to be strictly logical we should, I suppose, limit our exhibition to the work of our own membership, but that, we think, *would* be a narrow-minded policy, and we always cordially invite any worker to apply for an entry form and send work in. We, therefore, consider it our first duty entirely to support our own show, sending no new work to any other current exhibition.

Mr. Wastell's first sentences would be quite in order had this loan collection been organised at the jubilee time, and have been purely retrospective, but held now, at the time of our own annual exhibition, it is absurd to expect our co-operation. Even if it were now announced as retrospective only, a collection of the best work of the past ten years, some think that such a splendid show as that would amount to would overwhelm and outweigh in interest our annual collection of new work only, and ruin the commercial as well as the art side of our little venture. But I, for one, would have cheerfully risked it, and tried to show how much we had grown, in intention if not in actual achievement. Personally, I hope and think that pictorial photography is so strong and growing in outlook that we should have had all the greater *cachet*; have shown how strong we are going and mean to go.

The tactless, illjudged, proceeding of the R.P.S. is evidenced in other ways; *e.g.*, how difficult it will be for an exhibitor to decide which collection he will send his best work to—if to the loan collection he will have the greater honour doubtless, but if to the ordinary pictorial section he will have the chance of a medal. So the best work will go—where? It will be interesting to see, as it will serve as another signpost, as to whether the R.P.S. medal, or plain undecorated honour, is the greater attraction.

The idea that we of the linked ring necessarily feel antagonistic to the R.P.S. is absurd and quite groundless. Our aims are different. We do not work towards the same exclusive ends. We need not, and do not, therefore, antagonise them, and it should surely be conceded that the membership of an art society should entail the first and only call on its members' new work.

It would have been exactly the right thing for the R.P.S. to have held a retrospective exhibition of pictorial work at its jubilee time, when the Salon as a separate body, existing only for pictorial photography, would have been delighted to have sent its own collection of past best work.

How can the R.P.S. expect both their loan collection and their usual pictorial section to be successful? There is neither room nor material for both; good work is not so super-abounding as all that. The pictorial section will most likely be looked upon as second to the other; but, as it will doubtless be made up mostly of the uninvited ones, let us hope that the new geniuses who may have "arrived" during the past year will be in such force as to make a good show both for the R.P.S. and for photography.

The whole thing seems to me a huge mistake, and very much to be regretted. A first-rate opportunity has been wasted, and how to remedy it now is very difficult of suggestion. Yours, etc.,

FREDERICK H. EVANS.

PROTECTION FOR PHOTOGRAPHIC MANUFACTURERS.

Sir,—The question started by the letter of your correspondent "A Would-be Martyr" and continued by Mr. J. A Randall is a larger one, and goes down much deeper than either of those writers seems to be aware, unless at least "Would-be Martyr" writes with his tongue in his cheek. We have in this country in the past held our own with the other nations of the world in the quality of our photographic manufactures, and even at the present moment no one who compares British goods with those of other countries in this respect can doubt for a moment that this superiority in quality is maintained. Chemicals form one of the few exceptions.

But an article must not only be good; it must be cheap, and it is here that the British goods suffer. I do not wish to be too explicit and arouse invidious comparisons with paricular articles, so will confine myself at the risk of weakening my argument to generalities. I say therefore, generally speaking, that manufactures in this country are not produced at as low a price as they are in others. The reason is not very difficult to find.

Let us take the case of a British camera maker and compare it with that of an American camera maker. The Briton gets his labour fairly cheaply. it is true, at much less than it would cost him in the States, and at a little more than it would cost him on the Continent. In taxation he is nearly as badly off as the German, and infinitely worse off than the American, who hardly feels the incidence of taxation at all. His materials cost him much about the same whether he be one side the Atlantic or the other. In fact, in these considerations there is not much to choose, the balance being in favour of the British manufacturer. Why then cannot he make as economically as the American; if not, as indeed he ought, still more so? No one who has seen American manufactures has the slightest doubt about the answer to this question. It is in the employment of labour-saving devices and of economical methods generally that the American scores.

"Let the Britisher do the same then," I hear some ardent but shallow free trader remark flippantly. "If one can do it the other ought to, or go under."

This is just what the Britisher cannot do, and that because he suffers under so-called "Free Trade." The British camera maker has in this country a market amongst some thirty-five million of the best buyers for his products there are in the world. Next to the British the biggest buyers are American, but that is a closed market to him. The Continent is closed equally to both, or rather is partially closed. To the American the British market is as open as his own, the carriage across the Atlantic being the merest trifle; far more than counterbalanced by his freedom from British taxation. The result is that American manufacturers are able to make on a far larger scale than their British competitors to an extent that we can hardly credit. This holds good of many things besides cameras, and allows them to introduce methods of manufacture which the Briton excluded from all entry into the biggest market in the world could not economically adopt.

I repeat that it is because of the fact that he caters for a far larger market than the Englishman—for all the Englishman's market and for the American as well—that he can deal with far larger quantities, and so introduce great economies into his method of manufacture.

The question that remains is whether we are to be content to see our trade disappear, or take active steps to prevent it, and if so what steps? Yours, etc.,

W. H. FIELDEN.

Sir,—May I thank Mr. Randall for his courteous reply to my enquiry. I am glad to learn on the authority of one who is clearly no believer in protection, that the imposition of an import duty upon goods we can manufacture in this country does not necessarily increase their price.

The reply that the duty is so high as to be prohibitive, and therefore one no Government would impose, is best met by noting that all true protective tariffs are practically prohibitive, and therefore that their actual *ad valorem* rate is comparatively unimportant.

Why does he drag in metallic platinum of all things in the world as a manufactured article, the price of which might increase with a protective tariff, I wonder? He knows it is not a manufactured product at all, but a raw material we cannot produce; yet he seems willing that his readers should infer from the behaviour of platinum the behaviour of British-made cameras. This is hardly ingenuous. Yours, etc.,

ARTHUR CROWE.

DICHROIC FOG.

Sir,—In connection with the investigations of MM. Lumière and Seyewetz in the cure of dichroic fog in photographic negatives, described in *Photography*, it may be of interest to remind you that in a recent series of articles on intensification, I stated that dichroic fog could be absolutely removed, and the negative left as clean and clear, and as free from veiling in the unexposed portions, as the most critical worker could desire, by bleaching in mercuric chloride or bromide, and subsequently blackening in sodium sulphite. Although these are intensification methods, the extra density conferred by the former is so slight—the original density is multiplied by 1.1 only—that it may be disregarded.

All previously published methods of treating this defect result in the substitution of a grey fog for that removed; and the method considered best by MM. Lumière and Seyewetz modifies the colour of the image, though the fog is entirely removed.

Those of your readers who propose to experiment with these methods might find it interesting to compare the results of the treatment suggested. If the slight increase of density is considered an objection, it can be almost removed by immersing the plate in a hypo solution. The colour of the plate should be a good black.

Yours, etc.,

HENRY W. BENNETT.

PATENT NEWS

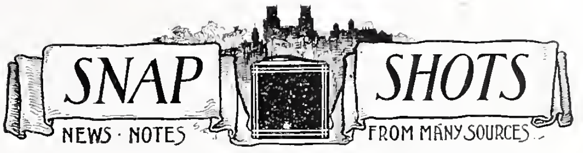
The following specifications of patents relating to photography have been published, and copies may be purchased at an uniform price of 8d., at the Patent Office, Sale Branch, 25, Southampton Buildings, London, W.C. The price of the specifications includes postage to any part of the United Kingdom. The additional postage to foreign countries is usually ½d. per specification. Postage stamps must not be sent on payment of any amount exceeding 11d. In ordering the name of the patentee and both the number and year of the patent must be given.

1902.

17,311.—Huck and Fischer. Supports for prints.
19,874.—J. J. Griffin and Sons, Ltd. Enlarging apparatus.
20,141.—Cobenzl and Mies. Sensitising fabrics, wood.
21,018.—Cameron Swan. Photo-engraving.

1903.

9,896.—Planer. Transparent lantern screens.
14,734.—Northrop. Developing apparatus.



SNAP SHOTS

NEWS · NOTES FROM MANY SOURCES

The Catford and Forest Hill Photographic Society had a successful outing to West Wickham and Addington on the 15th inst.

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The Scottish Photographic Federation. The secretary has issued to the federated societies the list of judges for exhibitions and competitions. The lecture list is expected to be issued next month.

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"The Art of Retouching," by J. Hubert, published by Hazell, Watson, and Viney, Ltd., at one shilling nett, has reached the twelfth edition. Elaborate instructions are given in the use of the pencil and the knife, and a section of the book is devoted to portraiture in improvised studios.

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Mr. R. Borrow informs us that he has a few small prisms suitable for viewing stereographs as described in his article in our issue for April 11th. These he will forward, on receipt of fourpence to cover postage and packing, to such of our readers as may require them.

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The photographic department at Spiers and Pond's Stores in Queen Victoria Street is being removed from the basement to the third floor, and the entire stock of apparatus and material is offered at a reduction in price. The sale commenced on the 24th inst., and closes September 26th.

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The awards in the Kodak competition for photographs taken at Wembley Park on the 1st inst. have been made, and are as follow: First prize, Adam Smith; second, F. N. Sutton; third, A. Kemp; fourth, A. E. Biscoe; and fifth, Miss L. Crisp. The special prize for photographs taken from the tower goes to F. G. Mudge.

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The photographic exhibition of the Frome Mechanics' Institute will be held on the 5th, 6th, and 7th of November. Entries close on October 24th. The judges are J. T. Ashby and C. Barrow Keene, who have power to award silver and bronze medals in each of the five open classes. Entry forms and full particulars can be had from the honorary secretary, Mr. Bernard J. Mitchell, of 3, Willow Vale, Frome, Somerset.

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Pictorial postcards are getting more and more plentiful. Some very charming ones that we have seen were labelled "The Dainty Series," and, although they bore no signature, we recognised them unmistakably as some of the beautiful flower work associated with the name of Mr. J. Carpenter.

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The exhibition of the Hackney Photographic Society will be held from the 11th to the 14th Nov. inclusive. There are six open classes, in which the judges, the Rev. F. C. Lambert, and Messrs. H. W. Bennett and H. Snowden Ward, have power to award silver and bronze medals. One gold medal is offered for the best picture in the open classes, inclusive of stereoscopic prints and lantern slides. Certificates will be awarded at the discretion of the judges. Entries close on October 26th, and entry forms can be obtained from the honorary secretary, Mr. Walter Selfe, 70, Paragon Road, Hackney, N.E.

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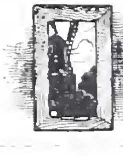
The mere gratification of a personal ambition is the reason given by Mr. F. W. Edwards for the publication of a pamphlet on "The Bichromate Salts in Negative Making," price fourpence. Having read the pamphlet, we unhesitatingly accept the reason; for no other is apparent. The discoveries which Mr. Edwards claims as the result of "several weeks of diligent study and investigation" may be found chronicled, with formulæ for their application, in most of the year books, and are probably well-known to our readers. The pamphlet is published by William Buck, of the Gresley Press, Swadlincote, who must take the responsibility for such errors as "principals" for principles, and the queer expression "a mute question."



FORTHCOMING EXHIBITIONS

SOCIETY.	OPENS.	ENTRIES CLOSE.	SECRETARY.
Hartlepool	September 9	August 24	G. Scott, 30, Cobden Street, West Hartlepool.
Cambridge P.C.	September 16	September 4	T. J. Sowden, Sunny Side, Guest Road, Cambridge.
Salon (The Linked Ring)	September 18	September 7	R. W. Craigie, Egyptian Hall, Piccadilly, London, W.
Royal	September 24	September 7	A. W. W. Bartlett, 66, Russell Square, London, W.C.
Watford C.C.	October 7	September 23	F. Roberts, Winslade, Cassio Road, Watford.
San Francisco Salon	October 8	September 15	Committee, 819, Market Street, San Francisco.
Rotherham P.S.	October 14	October 5	H. C. Hemmingway, Tooker Road, Rotherham.
Coatbridge P.S.	October 17	September 28	The Secretary, Ailsa Cottage, Coatbridge, N.B.
Isle of Wight P.S.	October 21	October 13	J. H. Burgess, 53, Pyle Street, Isle of Wight.
Belfast Y.M.C.A.	October 28	October 14	D. J. Hogg, 3, Trinity Street, Belfast.
Frome M.I.	November 5	October 24	Bernard J. Mitchell, 3, Willow Vale, Frome, Somerset.
Hackney P.S.	November 11	October 26	Walter Selfe, 70, Paragon Road, Hackney, N.E.
Sheffield P.S	November 17	November 3	J. W Charlesworth, 1, Joshua Road, Sheffield.
Sunderland P.S.	November 18	November 2	W. E. Kieffer, 1, Stirling Street, Sunderland.
Southsea P.S.	November 18		F. J. Mortimer, Pembroke Road, Portsmouth.
Edinburgh P.S.	November 21	November 7	J. S. McCulloch, W.S., 3a, North David Street, Edinburgh.
Hove P.S.	December 2	November 23	A. R. Sargeant, 55, The Drive, Hove.
Southampton P.S.	December 11	December 2	S. G. Kimber, Oakdene, Highfields, Southampton.
Chicago S A P	December 29	December 15	Society of Amateur Photographers, The Art Institute, Chicago.
South London P.S.	March 5	February 20	W. C. Marshall, 41, Glendon Road, Lee, S.E.

The Anti-trust Law in the United States of America.

Action against the Eastman Kodak Co. by Hastings and Miller.

THE plaintiffs, Messrs. Hastings and Miller, of 118, Nassau Street, New York City, have taken action against the Eastman Kodak Co., of New Jersey, which they referred to as "The Photographic Trust," claiming that it exists in violation to the Anti-trust Law.

Early in the summer a complaint was submitted to District Attorney Jerome, and on the 9th of June summonses were issued, the trial beginning in special sessions on the 6th inst., before Justice Wyeth, sitting as a magistrate. The Kodak Co. were represented by Walter S. Hubbell, secretary, and the complainants by Samuel H. Evins, of 7, Wall Street, who, it may be noted, is also the lawyer of the Anthony Scovill Co., the chief competitor of the Kodak Co.

The defendant company, it was stated, controls the following: Eastman Kodak Company, Rochester; American Aristotype Company, Jamestown, N.Y.; N.A. Seed Dry-plate Company, St. Louis; Canadian Kodak Company, Limited, Toronto, Canada; Kodak, Limited, London; Kodak Gesellschaft, M.B.H., Berlin; American Camera Company, Rochester; and Blair Camera Company, Maine.

The complainants alleged that the company and its subsidiary companies declined to sell supplies to dealers unless those dealers agreed not to handle goods in competition with the goods of the Kodak Company; that it limited the production and sale of supplies; that it used an unfair system of rebates, while it was impossible for dealers to carry on business without handling some of its goods.

In reply, counsel for the Kodak Company, Mr. De Lancey Nicoll, said that so far from enjoying a monopoly it had against it dozens of manufacturers who furnished most energetic competition. Mr. H. G. Miller, of the firm of Hastings and Miller, gave evidence, and the trial was adjourned until September 3rd.

THE USE OF THE KODAK DEVELOPING MACHINE was demonstrated at the Southampton Camera Club by Mr. A. T. Horne on the 17th inst., and the merits of the Kodoid orthochromatic plate were dealt with. This cut film is very useful in carbon work as it can be printed from either side.

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FORTY-THREE PRINTS WERE ENTERED in the Bowes Park and District Photographic Society's competition for work done at the outing to St. Albans. The competition was the most successful of the season, Mr. R. Core Gardner being placed first, Mr. J. F. Gay second, and Mr. Hawes third.

Looking Both Ways

Amongst the features of last weeks issue of "Photography" were

"New Methods of Using the Cooke Lens," by F. J. Mortimer.

"Notes of a Pilgrimage to Lourdes." Written and illustrated by G. E. Thompson.

"The Cloisters of Gloucester Cathedral," with many illustrations by F. H. Evans.

"A Special Kind of Fog, and its Removal," by MM. Lumière and Seyewetz.

Ilford, Ltd., and the Kodak Co.

Reducing over-dense negatives.

Next week amongst other matters we hope to deal with

"A Camera in Constable's Country." A fully-illustrated article by James Gough.

"Increasing the Keeping Qualities of Bichromated Gelatine," by Professor Namias.

The photography of cats.

"Physical and Chemical News," by Pro. Fergus J. McInnes.

"Dedham Bridge as it was, and Dedham Bridge as it is," by A. D. Halford and S. Lloyd.

Copying faded photographs and untoned prints.

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NOTICE TO CORRESPONDENTS.

All letters, advertisements, etc., must reach the office on Friday morning to ensure being dealt with in the issue for the next week. In cases of great urgency, letters delivered up to the first post on Tuesday morning may he in time to receive attention, but this cannot be guaranteed.

Communications for the Editor should he addressed, The Editor of *Photography*, 3, St. Bride Street, London, E.C.

In all publishing matters, letters, orders, etc., should he addressed, ILIFFE & SONS LIMITED, 3, St. Bride Street, London, E.C.

Advertisement copy and orders, and these only, should he sent to the printing works. They should he addressed ILIFFE & SONS LIMITED, Coventry.

LEADER

The Abolition of the Dark Room.

In our leading article last week we dealt with one of the signs of the times—to wit, the steady and continuous growth in popularity of the carbon process. The latest introductions into the list of photographic apparatus and material mark quite another phase of progress in the development of photography, having for their aim the rendering of a dark room unnecessary.

This tendency has manifested itself now for a year or two, although it has received its greatest impetus quite lately. The first apparatus for the purpose that attracted any general attention was the "Tyma" developing trough of Mr. Reichert, and it is gratifying to us to note, as Mr. Reichert himself has pointed out, that the Tyma took its origin in a leading article in *Photography*, or perhaps we should be putting the matter in a more accurate manner if we say that it was our leader which gave rise to the train of thought which brought out the Tyma eventually—a fact to which testimony was borne by the leading article itself, which was reprinted on the back of the Tyma circular. In the Tyma, as our readers know, a daylight loading spool of film was inserted, and by an ingenious arrangement the black paper was drawn out and thrown away, while the film passed into the body of the trough and was there developed.

The Tyma was soon succeeded by the Kodak developing machine—quite the most elaborate and complete form of apparatus for developing roll film in lengths that has been devised. There is no need to go into its principle or design in this place; they are sufficiently well known. The open advocacy by the Kodak Co. of methodical development, as opposed to the empirical guesswork of gauging density by the eye, practised by the early dry plate workers, was an unmistakable sign of the times, and showed beyond the possibility of doubt that timing development, as the saying is, "had come to stay."

The next step was to be taken by the Pocket Dark Room Co., who put upon the market a few months ago the most ingenious and compact piece of apparatus for the purpose that we have seen. The idea in this device was to enable the worker to develop each exposure on a roll of film separately, and if he felt so disposed to watch it during development. The Pocket Dark Room has not been on the market long enough to attain a widespread use, but the few weeks that have elapsed since its introduction have sufficed to make for it many friends and enthusiastic advocates of its use, which is no more than it deserves.

This week on another page we deal with a different method of doing away with the dark room by protecting the plate by means of a suitable dye, which Messrs. Butcher are putting on the market under the name of Coxin. In this case, there is no attempt to do away with the ocular observation of the progress of development dear to the heart of the rule of thumb worker, but it can be followed in ordinary daylight. At the same time, there is no need to do so, and the dish may be kept covered as much as possible and development regulated with a watch, to the great advantage of the negatives. In using Coxin, as in using a ruby lamp in the dark room, it is well to remember that nothing short of absolute darkness is "safe," and that the less a plate is exposed to light of any kind during development the better.

There are some who regard the outcome of all these departures as the abolition of the dark room, and it seems only reasonable to expect that this will come—at any rate, to a considerable extent. Even now, and without any of such appliances, it can to a very large extent be dispensed with. We must say that we should hardly regard its total supersession with any feeling of regret.

Spirit of the Times

SHAM DUTCH TILES. There are quite a number of photographic processes which lend themselves to masquerade as other dissimilar methods altogether. We all know how platinum and carbon prints have been made to simulate steel engravings, and many hold the view that gum-bichromate and brush-developed platinum prints simulate wash-drawings, although in this latter case much of the simulation is unintentional, and brush-marks, so far from being deliberately and wantonly introduced to make the resemblance as close as possible, are inherent in the processes themselves. We do not, therefore, refer to these two methods at any rate, but we do include the plate mark mount, which is a sham pure and simple, and we should also include as a sham more elaborate and less pure the ferro-prussiate "tiles" (save the mark!) that have been produced recently for the delectation of those who like such things. In this case, a plain matt surfaced tile is taken, and upon it is mounted a blue print, so as to fit the front face of the tile exactly. When it is thoroughly dry, the face of the print receives two coats of ordinary builders' size, allowing it to dry between each, of course, and the "tile" is completed by the application of a coat of oak varnish. The colour of the "tiles" so produced is said by some to be very closely akin to that of the old Delft ware, but this is far from being the case. It is only needful to put them side by side for the wide divergence of the tints to become apparent, the difference being all in favour of the Delft.

* * *

THE TWO EXHIBITIONS.

There are few features in connection with *Photography* upon which we have so often received the congratulations of our readers as the annual review of the two great photographic exhibitions in our pages. Whether it is due entirely to the services and ability of those gentlemen who act as critics, or whether there is not also some form of tacit recognition of the fact that the point of view is different from that of many others, is a subject into which we will not enquire. We will content ourselves by saying that we have made arrangements this year to ensure our notice of the exhibitions being as complete and as careful as heretofore. Similarly the task will be approached neither with the idea of praising and flattering friends and attacking enemies, nor with a desire either to "say something nice" or to say something "smart" about each. Our aim will be to make the review of the work of the season helpful both to those who can go to the exhibition and see it for themselves and to others not so fortunate. To this end, as before, we shall illustrate our notes as fully as possible, and generally shall try to make a record of both shows that shall interest many who are supporters of neither. The two special issues of *Photography* dealing with the exhibitions will appear on September 26th and October 3rd; and, as on previous occasions, will be on sale not only during the week of issue, but continuously until the exhibitions close.

* * *

SILVER FROM WASTE FIXING BATHS.

The following method of saving silver residues, which would otherwise be wasted, is one which is employed by two amateur photographers, who are students at the Stanford University, U.S.A., and may commend itself to some of our readers as worth trying. The hypo bath, which is the ordinary acid sulphite bath, is placed, when exhausted, in a large glass bottle containing several strips of sheet copper that have been made perfectly clean. As a coating of silver forms upon these strips, the bottle is shaken to remove a portion, which collects with other silver salts at the bottom. Occasionally, it will be necessary to clean the copper strips with oxalic acid. When it is thought that all the silver has been deposited in the bottom of the bottle, the liquid should be gently decanted off and the powder remaining at the bottom gently washed by allowing water to run into the bottle. This powder is almost pure silver. To purify it, it is first dissolved in hot nitric acid, and the excess of acid evaporated off. The residue or silver nitrate is then dissolved in water, to which hydrochloric acid or a solution of common salt has been added, until the precipitation of silver chloride ceases. This chloride is filtered out, washed well, and then fused with sodium carbonate and a little powdered charcoal, taking equal parts of chloride and carbonate. This fusion brings the silver back to the pure metallic state from which it may easily be converted into silver nitrate. We are indebted to our very interesting Western contemporary *Camera Craft* for this information.

* * *

PENNELL ON ILLUSTRATION.

Connoisseurs and collectors have been most sumptuously catered for of late years, in the way of magazines devoted to their special interests, and in no way more sumptuously or more successfully than in the *Burlington Magazine*. The current issue lies before us as we write. It is No. VI., Vol. II., and contains a number of well-executed plates, which only go to show—as do nearly all illustrated journals—how completely dependent they now are upon photography and photographic reproduction methods. The production of such a magazine would be absolutely impossible without the camera. In the issue before us, "Joe" Pennell, in an article on "Later Nineteenth Century Book Illustrations," which is both more readable and less valuable by reason of its dogmatism and "cock-sureness," tells how Turner and his steel engravers struggled with the lithographers, Harding, Prout, and Lewis, "only that all alike might be undermined by Knight's penny something or other, and that horror, as it then was, the *Illustrated London News*, always catering for the people, and the people damn any form of art." Specimens of the particular form of art with which he deals, drawings on wood for the engraver, are very few in number, since in those days the engraving method destroyed the original entirely. It was not until a method of photographing the drawing on to the wood block was worked out that it became possible to save from destruction the original work of the artist. Process work comes in for some hard words indirectly, although it may be noted it is employed to illustrate the article itself. The same issue contains some excellent photographs of pottery, well reproduced, to say nothing of a fine reproduction of a portrait by Titian, and another—not so good—from Prince Rupert's mezzotint of "The Great Executioner."

* * *

A NEW BATH FOR RED TONES.

The difficulty of getting good red tones on printing-out paper is well known, and the many methods adopted by various workers to obtain them are, unfortunately, not by any means completely successful. One of the earlier ways was to remove the print from a sulphocyanide bath when partially toned, to place it in a solution of sodium sulphite to check further toning, and then to fix it. This is still often recommended, and occasionally gives pleasing results. Another way is to let the print remain in a combined bath until slightly toned, and then to fix it; but in both these ways great uncertainty exists, since the colour when dry is liable to differ very considerably from that when wet. A combined bath for red tones containing sodium tungstate will be found very convenient, as the colour never becomes cold or purple even during fifteen minutes' immersion. and any desired reddish or sepia tone which the print assumes will be approximately retained when dry. Ten grains of sodium tungstate crystals are added to twenty of ammonium sulphocyanide, and half an ounce of hypo in two ounces of water. When dissolved, a solution of one grain of gold in half an ounce of water is shaken up with it. and the bath is then ready for immediate use. The bath for carmine red tones given in 1901 by M. Hélain, which consists of a sulphocyanide and gold solution with a small proportion of potassium iodide, has not worked very successfully in our hands; but quite possibly some brands of P.O.P. are more amenable to treatment with it than others, and our experiments were limited to one brand only.

* * *

ORTHOCHROMATIC PLATES FOR HOLIDAY WORK.

No doubt many of our readers have been deterred from taking away orthochromatic plates with them on their holidays because, firstly, they have read (or found from experience) that no great advantage is gained, unless used with a screen; and, secondly, it is well known that exposure is increased several times when a screen is used. When one is informed by the makers that exposure is increased twenty times if the plate be used with a certain light filter, a good deal of work is put out of the question. But, on the other hand, it must be remembered that an exposure can frequently be made as short as an eightieth of a second, in which instance merely one-fourth of a second would be required with such an orthochromatic screen. We have the platemakers to thank that very rapid colour sensitive plates can readily be obtained, and hence good orthochromatic work can always be done except where extremely short exposures have to be made. When recently working with a certain orthochromatic plate and a yellowish-green screen, which only necessitated quadrupling the normal time, we were enabled to secure several creditable negatives with quite short exposures; and in one or two instances found those taken through the filter were considerably overexposed. Unfortunately, no fixed rule, as regards the increase of time, can usually be made, because it varies with different subjects. Only a panchromatic plate equally sensitive to all colours of the spectrum would require the same increase regardless of the colours which predominated in the subject, and the use of such a plate rather hampers one, owing to the slight amount of red light one may use in the dark room with it.

* * *

MOUNTAINS BY MOONLIGHT.

Dr. Mühlstädt has described his methods of photographing mountain scenery by moonlight in the *Photographische Rundschau*, and the few photographs with which his article is illustrated are certainly very charming, as well as excellent from a technical point of view. It is possible, we are told, to develop rapid plates in the light of a June full moon without them showing a trace of fog. High up on the mountains, however, the light is far more powerful. The plates used were those known on the Continent as Apollo, Perxanto, etc., which are about as fast as those called rapid or instantaneous in this country. The stop used was either f/12 or f/6.5, and exposures of from half a minute to one minute were given, and were found to be quite sufficient. It is very interesting to note how remarkably powerful the light is, comparatively speaking, at an altitude one would think almost insignificant, when we consider our distance from the moon. The photographs seem to suggest that it would be well worth the while of those of our readers who are off to Switzerland for their holidays to try their hand at a similar thing. There is a peaceful softness about the pictures we have before us which to look upon is almost as refreshing as a holiday itself is to contemplate.

The Week's Meetings

FRIDAY, AUGUST 28TH.

East Liverpool. The Camera and its Management.

SATURDAY, AUGUST 29TH.

EXCURSIONS.

Hull. Kirk Smeaton.
Halifax. Newsholme Dean.
Catford and Forest Hill. Crystal Palace Gas Works.
Barrow Nat. Urswick, Bardsea.
Everton. Half-day Outing.
Coventry. Stoneleigh.
Isle of of Wight. Yarmouth and Freshwater.
Newton Heath. Owen's College.
Bowes Park. Bush Hill Park.
Ilford. Hampton Court.

MONDAY, AUGUST 31ST.

Southampton. Print Competition. Portraiture or Figure Studies.

TUESDAY, SEPTEMBER 1ST.

Nelson. Flashlight Demonstration.
Hackney. Paper by A. Mackie.

WEDNESDAY, SEPTEMBER 2ND.

Boro. Poly. Subject to be announced
North Middlesex. Ninth Lantern Slide Competition.
Cricklewood. Developer and Development.

THURSDAY, SEPTEMBER 3RD.

Hull. General Meeting.
Woolwich. Ongar.

SATURDAY, SEPTEMBER 5TH

EXCURSIONS.

Boro. Poly. St. Paul's Cray
Hackney. Bostal Heath.
Glasgow P.A. Old Kilpatrick
Ilford. Ilford Survey (Record Work).
Southampton. Netley Abbey.
Bristol. Leigh Woods.
Glasgow Southern. Sail, Firth of Clyde.
Paisley. Glasgow Harbour.
Cricklewood. Hampstead Heath.

Societies will have their meetings announced here if the syllabus is sent to us at the beginning of the Session, or from time to time.

Some Recent Tests of the Barnet Extra Rapid Plates.

BARNET plates have deservedly won a high reputation among photographers, both for phenomenal speed and for those qualities without which speed would avail but little. After bringing out the roll film which we recently reviewed in these columns, it might be supposed that Messrs. Elliott and Sons would be content to rest on their oars. So far from doing so, they appear to feel it their duty to overhaul their plates with a view to improvement in their quality, if improvement in such goods is possible.

The Extra Rapid plate, though not the fastest of the Barnet series, is sufficiently rapid for all but subjects which require the focal plane shutter to be driven at high speed, and is at the same time remarkable for its cleanliness of working and the fineness of the grain. Coupled with these qualities is an absence of all difficulty in obtaining density when density is required, while there is a marked difference between even the faintest impression of light and the clear parts that have been shielded from its action.

Messrs. Elliott and Sons recommend a pyro-soda developer, although at the same time they state that any good standard developer may be employed. In fact, it is needless to say that, although different developers produce negatives differing widely in appearance, they are for printing purposes practically identical. For those who like to work with the makers' formula we may say that each ounce of working developer contains, roughly, but quite near enough, three grains of pyro, twenty-five grains of sodium sulphite, twenty-two grains of sodium carbonate, between a quarter of a grain and half a grain of potassium bromide, and a trace of nitric acid. The proportion of bromide recommended by the plate makers is gradually decreasing, and shortly we hope in their interests and that of the users to see the use of this unnecessary salt abandoned altogether.

It should hardly be necessary to add anything to what we have said above on the subject of the Barnet extra rapid plates, but for those who want our opinion, in a nutshell as it were, we may say that a careful series of camera tests on widely-varying subjects convinced us that for all-round work they were simply unsurpassed. The photographer who cannot get good results on the Barnet plates had better take up some other occupation or hobby; he has nothing to hope for in photography.

A New Kodak Introduction. Self-toning Postcards.

SOME little time past we chronicled the advent of the Kodak Self-toning Solio Paper, and drew attention to its many good qualities. The simplicity of the manipulations, and the certainty with which batches of prints might be produced uniform in colour, coupled with the economy arising from the absence of waste either of paper or toning bath, have rapidly secured for it the same measure of popularity attained by the older Solio papers.

In the bustle of everyday work it is no small relief to know that when once the proofs have been printed to the proper depth there is no need for anxiety as to the results. The baths required may be made up at a moment's notice, and require no ripening as with some of the toning baths to which we have been accustomed, or if they are made up in bulk for future use there is no fear that the precious metals may be precipitated with an accompanying loss of time and costly salts.

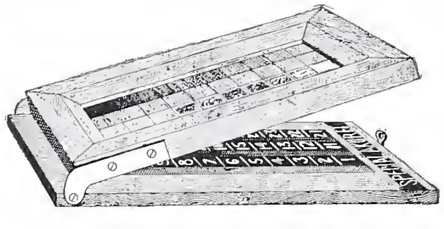
Important as these considerations are in the case of prints that are designed for mural decoration or for storage in albums and portfolios, in which case the importance of the work justifies a considerable expenditure of time and care, they apply with even greater force in the production of postcards, which having as a rule but an ephemeral life scarcely warrant the same devotion, but yet must bear no evidence of hasty treatment in their appearance if the photographer's reputation is to be maintained. A neatly finished photographic postcard in a good colour will always prove a pleasant reminiscence, while one in a bilious yellow or in an over-toned slaty blue can hardly be taken as a compliment by the recipient.

The Kodak Company has been well advised in coating cards with the self-toning emulsion, and in doing so has, as ever, made the new production worthy of the name. The card used is light, pliable, and of excellent quality. The back is left quite blank for pictorial purposes, and the face is divided into two compartments, the one for the address and the other for the communication to be written upon it. At the same time two opaque paper masks are enclosed with each packet, enabling a small negative to be used and leaving the remainder of the surface free for the message when that course is desired.

The manipulations are identical with those issued with the self-toning paper, and are so simple as to call for little comment. The proofs, as is usual with silver paper, should be printed a little deeper than the finished print should be, and the prints are without any previous washing placed in one of the following toning baths for from three to five minutes: Ammonium sulphocyanide, 20 grains: water, 20 ounces; or salt, 1 ounce: water, 20 ounces. The former gives cold and the latter warm tones. After either bath, washing for five minutes should take place, and the prints are fixed in hypo 3 ounces, water 20 ounces. The usual thorough washing must follow, and the work is done. The cards are sold twelve in a packet, with the two masks, at one shilling.

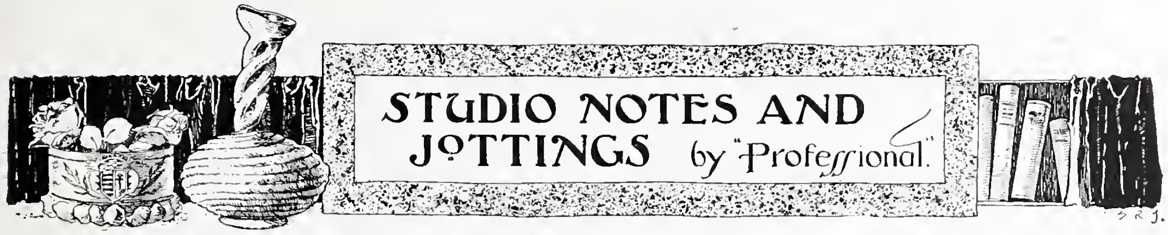
The "Special Akuret" Print Meter for Carbon Printers, etc.

WORKERS in carbon, gum-bichromate, and even occasionally in the platinotype process, are dependent upon the reliability of the actinometer they use for exact exposures. In simplicity of working and certainty in results, the Akuret print meter has long held a high place in the carbon worker's estimation, and the improvements that have been introduced into the new patterns will make it better suited for its purpose than heretofore. The general construction of the instrument can be seen from the illustration. A baseboard has attached to it a black card divided into thirty compartments, each of which is numbered. Separating these divisions into three sections are strips of painted card. When a negative is to be printed from, a slip of sensitised paper about three-eighths of an inch square, a supply of which is sent out with the meter, is laid over the numbered division corresponding with the negative in use, and is secured by tucking the edge under the coloured strip. The glass lid is then closed down, and as this is graded into various densities, each number on the base takes longer to print than that which precedes it.



The gradations are exceedingly fine, thus making provision for every possible type of negative, although the gradations at each end will be seldom or never required. Obviously if two or more negatives take the same time to print, one slip of sensitive paper will serve for all, but the great advantage with this meter is one that obtains with no other that we know of. If a number of prints have to be made from negatives varying in density, those that are finished first may be retired, the frames recharged, and new slips of sensitive paper inserted without interfering with the denser negatives. Clearly, this effects an enormous saving of time, or of expenditure, for with the older types it would be necessary to have a meter for each type of negative, or to wait until all the prints were made before any of the negatives could be again printed.

The "Special Akuret" meter is one of the greatest conveniences which the carbon printer can have at his disposal. It has been carefully thought out, and is thoroughly practical in its arrangement. It specially appeals to the man who has a number of prints to make at once from varying negatives. It is made by the Portable Studio Manufacturing Company, of Brettell Lane, Stourbridge, and sells at 3s. 6d. The sensitive paper costs sixpence per packet.



STUDIO NOTES AND JOTTINGS

by "Professional."

PROFESSIONAL EXHIBITIONS.

WITHIN a few weeks the annual photographic exhibitions will be open, and either in press or studio we shall be discussing the merits of the exhibits, and airing our opinions on the vexed questions of photography and art, and fuzziness versus the hundredth of an inch definition. Men may come, and men may go, but the average photographer's love for inspecting pictures and criticising them freely, very freely, goes on for ever. To me this annual outbreak is a good sign, for it indicates a healthy interest in all that concerns photographic picture making. In the history of pictorial photography each period of advance has been accompanied by the fiercest discussions in the press and the holding of numerous exhibitions by rivals in pictorial methods, each striving by their examples to gain the ascendency. An exhibition also attracts the general public, being an appeal to a larger audience than is found amongst those directly interested. From this point of view the exhibition forms a valuable means of advertising, and one that has been neglected by the professional photographer. I have seen one or two exhibitions held by professionals at their own premises which have been highly successful in drawing public attention, and am surprised that the practice is not more common. To the photographer in a small way the annual exhibition would perhaps be impossible, though even he could specialise in carbons or platinums and hold an exhibition of specimens of his work in these processes. From what I have seen of such exhibitions, I am convinced that they result most beneficially to the photographer who undertakes them.

THE SPECIALIST.

THE most marked feature of modern photography which distingushes it from its earlier years is that the specialist is now everywhere in demand. In past times that prodigy the "all-round man," who could work every known process, and knew all about the science and practice of photography, was the leading type of photographer both as employer and employed. Such practical and scientific knowledge was in those days quite possible. Nowadays, so varied are the applications of photography, and so extensive its scientific development, no man could possibly obtain a thorough knowledge of all its phases. There are a few old photographers who lament the extinction of the "all-round man," asserting that the modern specialist is his inferior even in the branch in which he specialises. Whatever may be the defects of the specialist, it is certain that he is here to stay, and that the "all-round man" has little chance of success in competition with him. In portrait photography this sub-division is rapidly taking place. Several of our lady photographers do not book sittings for men; and, on the other hand, one of our London photographers turns a deaf ear to the voice of the feminine charmer. An American photographer is equally indifferent to the fair sex, and that there should be no mistaking his feelings he boldly advertises himself as a "photographer of men." When the "all-round man" observes these things he must begin to doubt the wisdom of his theory.

WASTE OF MATERIAL.

IT is remarkable to note the difference of opinion which exists amongst photographers in respect to the question of waste—some regard a high proportion of waste negatives and prints as inevitable, whilst others are of the opinion that all waste is preventable. This difference arises from the fact that the decision of what makes waste material depends on the standard of work required. The higher the class of work turned out the greater must be the proportion of waste. It does not necessarily follow that this waste is caused by bad work or careless manipulation, for it may be rejected on comparative tests. However skilful a worker may be, his results will never be quite uniform, and if only his very best will pass a given standard, it follows that a large proportion of his work will become waste. In all first-class houses it is a common practice to reject negatives and prints which would pass as faultless under a lower standard, because nothing but the best must receive the hall-mark of the firm. An expert platinum printer engaged in a West End firm once assured me that he had known his employer to reject his work for a whole week, and from my personal knowledge I can vouch for an operator who spent a day in making 15 by 12 enlarged negatives before he secured one that was considered perfect. This determination to have at any cost the best and only the best negatives and prints is the secret of all high-class photography, and in my experience the better the work the larger the proportion of waste.

STUDIO HUMOUR.

THE comic papers from *Punch* downwards often contain humorous pictures depicting incidents in which either the photographer or his sitters are the active agents. I have sometimes thought that if these pictures were collected they would form a most interesting and entertaining book for photographers. The typical photographer in these drawings is a long-haired, thin, and sad-faced man, somewhat mysterious in bearing, and giving one the impression that had he the mind he could unfold some terrible secrets connected with his profession. In nearly all of them he is treated with respect if not with awe, and it is always the sitter who is made an object of ridicule. Hogarth, it is said, was the only man Pope was afraid to lampoon, the brush in this case being mightier than the pen, and it may be that the comic artists of our time are afraid of the photographers' powers of retaliation in depicting their personal appearance. In these days of the illustrated interview it is well to be on the side of the photographer. He is a power in the land, and it depends on him to make or marr a reputation for beauty. The photographer's apparatus is not treated with similar respect, the camera, lens, and stand being of a form never seen on earth or sea, and the head rest enough to make the boldest tremble, while most of the jokes are of the "chestnut" variety.

ABOLISHING THE DARK ROOM.

THE amateur photographer has always been the pioneer in photographic revolutions, and it is a truism that what the amateur is doing to-day the professional will be doing to-morrow. Judging by past experience, it would seem that we are about to see the dark room vanish into the limbo of pre-gelatino-bromide appliances, for the amateurs have already doomed it to extinction. What with developing machines, stained developers, and plates which can be developed in ordinary daylight, the dark room is being assailed on all sides, and is having a hard fight for its existence. There can be no question that if the dark room could be abolished it would add greatly to the comfort of professionals, besides having a beneficial effect on the state of their health. In a few cases it is true that the dark room does not have any injurious effects. In some instances an hour or two in a dark room leads to depression of spirits, faintness, and nausea. These results are mainly due to the confinement and defective ventilation, although I believe that under the best conditions the red light would still lead to similar results in some individuals. It may be a fancy, but in my own case the bright yellow light of the dark room of collodion days seemed to have a stimulating effect, whilst the ruby light of to-day gives rise to depression. Comparing the various methods in vogue for abolishing the dark room, the only one which appears likely to meet professional requirements is the developing machine, and should films come into general use it is probable that an instrument of this type would take the place of a dark room for the bulk of development. Whilst plates are still used, the dark room is likely to survive, for they do not lend themselves mechanically to such methods of development.

The Newest Developer: Metoquinone.

Some account of a new compound, a chemical combination of metol and hydroquinone, which has been prepared by MM. Lumiere and Seyewetz.

METHYL-PARA-AMIDO-PHENOL SULPHATE, as the chemist "delights to explain," or metol, as the ordinary photographer is content to describe it, in conjunction with hydroquinone, has long enjoyed a well-deserved popularity as a developer. The mixture of the two substances has been a mechanical one, however, and it was left for Messrs. Lumière and Seyewetz to prepare a salt which shall be a chemical compound of the two developers, which salt has been named by them "metoquinone," and has been found to possess certain valuable properties.

In a paper just published these gentlemen describe the methods by which metoquinone is prepared, and give details of its use. To make it they say that saturated solutions of metol and hydroquinone should be mixed in the proportion of two molecules, or parts of metol, to one of hydroquinone, and then anhydrous sodium sulphite added to saturation. After a few seconds an abundant precipitate is obtained in the form of brilliant white particles, which fuse without decomposition at about 275° Fahr. This point of fusion is notably different from that of hydroquinone, which is 336°, and from that of metol 188° Fahr. The combination is soluble in cold water; water dissolves one per cent. at 59°; it is more soluble warm (ten per cent. at 212°); it crystallises easily by cooling the warm saturated solution; it is very soluble in cold alcohol (twenty per cent. at 59°); and only slightly soluble cold in benzine, ether, and chloroform. Acetone is the best solvent, one hundred parts of acetone dissolving about thirty-five parts at ordinary temperatures.

One of the most noteworthy points about metoquinone is that it will develop with the addition of sodium sulphite only, that is to say, without alkali. The best formula under these conditions, say its preparers, is the following:

Water	20 ounces.
Metoquinone	85 grains
Anhydrous sodium sulphite	1¼ ounces.

The metoquinone should be dissolved first and then the sulphite added. The solution is colourless and keeps indefinitely in corked bottles without the least alteration. In uncorked bottles it becomes discoloured very slowly, and acquires an appreciable tint only after several months, without, however, any modification of its developing power. The solution does not become coloured during development, and may be used over again without the necessity of special precautions for keeping. The developer may be used until exhausted without appreciable colouration of the solution. Finally, the liquid, probably owing to freedom from oxidisation, does not stain the fingers.

Unlike amidol, however, it may also be used with an alkali by those who find the above-described formula too slow in its working. The addition to it of one part of sodium carbonate gives a very marked accelerative effect, and with two parts the acceleration reaches a maximum. Development is about two and a half times as rapid with sodium carbonate as without it, and potassium carbonate acts in a similar manner.

The image is less clear but more vigorous than that given by alkaline sulphite alone. A developer to which carbonate has been added may be advantageously employed for under-exposed negatives, and may be used until exhausted. The following formula is recommended:

Water	20 ounces.
Metoquinone	85 grains.
Sodium carbonate	96 grains.
Anhydrous sodium sulphite	1¼ ounces.

Thanks to its great solubility in acetone, metoquinone with acetone forms a very convenient developer. To make it either a saturated solution of metoquinone in acetone may be prepared (solubility thirty-five parts in one hundred parts of acetone), and a small quantity of this solution added to the corresponding volume of sulphite solution, or acetone may be added to the ordinary developer made up with sodium sulphite. Acetone is added in different quantities according to the developing power it is desired to obtain. Small quantities of acetone have a very marked effect. The developing power is increased by adding acetone up to five per cent. of the total bulk of developer. The solution of metoquinone in acetone should be kept in well-corked bottles, otherwise it absorbs the oxygen of the air and becomes brown.

The following are two formulæ for normal developers, according whether a saturated solution of metoquinone in acetone, or acetone added to the ordinary developer, is used:

1. Saturated solution of metoquinone in acetone	5 drams.
Water	20 ounces.
Anhydrous sodium sulphite	1¼ ounces.
2. Water	20 ounces.
Metoquinone	85 grains.
Sodium sulphite	60 grains.
Acetone	30 minims.

The solution will develop when the proportion of metoquinone and acetone indicated in the above formula is considerably reduced.

Caustic alkalies may be added by those who find even the developer with alkaline carbonate not powerful enough, while formosulphite and metoquinone, say MM. Lumière and Seyewetz, give good results. The following formula is recommended:

Water	20 ounces.
Metoquinone	85 grains.
Formosulphite	1¼ ounces.

Metoquinone is a developer which is extremely sensitive to the action of bromide. The presence in the developer of two or three per cent. of a ten per cent. solution of potassium bromide has a very marked retarding action.

The non-staining properties of metoquinone make it a very suitable developer for paper. Used merely with sodium sulphite with the formula given above, fine blacks and clear whites are obtained, and the addition of a little carbonate increases the intensity of the blacks without affecting the brilliancy of the high lights. The formula the inventors recommend is as follows:

Water	20 ounces.
Metoquinone	85 grains.
Anhydrous sodium sulphite	1¼ ounces.
Anhydrous sodium carbonate	96 grains.
Ten per cent. solution of potassium bromide	96 minims.

Or, if preferred, the sulphite and carbonate may be replaced by formosulphite, when the formula of the normal developer is:

Water	20 ounces.
Metoquinone	85 grains.
Formosulphite	1¼ ounces.

The authors of the communication, of which the above is an abstract, point out that the advantages that may be claimed for metoquinone are as follows:

(1.) The solutions, even when uncorked, keep without appreciable alteration.

(2.) A large number of plates can be developed in the same developer, using it until exhausted.

(3.) The developing strength can be increased in large or small proportions by the addition of carbonate or caustic alkalies, or, better, by the use of formosulphite, without risk of fogging.

(4.) The developer is highly sensitive to the action of potassium bromide.

Combined Toning and Fixing Baths Containing Lead.

A communication made by Prof. R. Namias to the Congress of Applied Chemistry at Berlin.

THE action of salts of lead in combined toning and fixing baths has received a good deal of attention, and finally Messrs. Lumière and Seyewetz have come to the conclusion that in the toned image lead is not present. But on analysing prints toned with lead, but in a different way from the toning adopted by these gentlemen, I have invariably found lead. When the ash of the prints is treated with boiling hydrochloric acid, the lead is dissolved, giving chloride, which in this form allows the lead easily to be recognised.

Messrs. Lumière and Seyewetz regard the action of the salts of lead in the combined bath as a sulphuration of the image, but if we admit that silver sulphide alone is formed it is difficult to understand why every other sulphurising bath does not give black tones similar to those produced by the baths containing lead. For example, both the mixture of alum and hypo, and the pentathionic acid which the above-quoted authors give, have an energetic sulphurising action. The same writers advocate lead pentathionate as an ingredient of a good toning and fixing bath.

These facts, and the fact that the toned image always contains lead, although often present in very small quantity and difficult to detect, go to confirm what I pointed out several years ago, that under these circumstances the tone is produced by lead sulphide. The question then is, how comes it about that lead sulphide is produced upon the image. This has been the subject of some recent experiments which have led me to form a theory.

It is well known that the mixture of solutions of a salt of lead and of hypo bring about a spontaneous and continued deposition of lead sulphide. This is caused by the lead hyposulphite which is formed upon admixture undergoing a slow decomposition as shown by the following equation:

$$PbS_2O_3 = PbS + SO_3$$

Lead hyposulphite = Lead sulphide + Sulphuric anhydride.

The sulphuric anhydride, however, is no sooner liberated than it reacts on the sodium hyposulphite present thus:

$$Na_2S_2O_3 + SO_3 = Na_2SO_4 + SO_2 + S$$

Hypo + Sulphuric anhydride = Sodium sulphate + Sulphurous anhydride + Sulphur.

So that we not only have the formation of lead sulphide but also of sulphur, and the liberation of sulphurous anhydride. This is borne out in practice. But when such a solution as we are considering is in the presence of silver, owing to the great tendency of silver to combine with sulphur, the two above-described reactions, which may be regarded as one, are facilitated. What really takes place then can be stated in the following form, which shows the final result when silver is present, as when the actual toning of a print is being performed:

$$PbS_2O_3 + Na_2S_2O_3 + Ag_2 = PbS + Ag_2S + Na_2SO_4 + SO_2$$

Lead hyposulphite + Hypo + Silver = Lead sulphide + Silver sulphide + Sodium sulphate + Sulphurous anhydride.

When there is present in the bath gold chloride as well, the presence of a salt of lead facilitates its decomposition also, and I regard it as highly probable that the presence of lead sulphide may facilitate the formation of gold sulphide on the image.

Gold sulphide would help to make the colour of the image much blacker. In every case, in the presence of a considerable quantity of a salt of gold, and by prolonging the toning sufficiently, one can ensure afterwards that the toned image shall only contain the very smallest quantity of lead, so small perhaps that it may even escape analysis. This is due to the fact that the greater part of the lead sulphide has had substituted for it gold or gold sulphide.

Coxin. Is the Dark Room to be Abolished?

THE dark room is to be abolished—the chamber with the dim religious light in which so many hopes and fears have been born to be no more. All its mysteries are to be dragged into the ruthless glare of the gas jet, or the open day. Such is the claim made for the solution "Coxin," which by its use dispenses with the necessity for a dark room as far as developing either plates or film is concerned.

It is also claimed for "Coxin" that it may be used with any developer to which the photographer is accustomed, and is almost everlasting, for it is not consumed as the developer is. It is supplied in tins, and requires only to be decanted into a black ebonite or *papier mache* dish to the depth of at least half an inch. It need not even be returned to the tin if the dish is closed with a close fitting cover, but may remain constantly in it, ready for use at a moment's notice. Into this bath the plate must be conveyed in total darkness, and for this purpose it may be supposed that the conventional dark room lamp is necessary. Although those who choose may employ such a lamp, or may invest in the changing bag which Messrs. W. Butcher and Sons supply to those who want it, there is no actual need for either of these accessories.

Most of those to whom the ownership of a room set apart for photographic manipulations is an impossibility, or at any rate an inconvenience, conduct their operations by night, and all that is needed is to close the shutters or draw down the blind and so make the exchange in total darkness.

After the plate has been for two minutes in the solution the light may be turned up without fear. It is convenient to have a watch or clock at hand, and while this should be well lit, the dish containing the red solution and the dish of developer, which should be close by, ought to be shielded from the direct light by a newspaper or similar shield. The plate is then to be picked quickly out of the Coxin, and as quickly placed in the developer. A small quantity of the dye adheres to the film and renders it impervious to moderate light.

It is equally possible to work by daylight if the means of making the room temporarily dark can be improvised. In this case it is desirable to carry out the work at some distance from the window when it is uncovered. The precautions to be taken will depend to some extent upon the sensitiveness of the plate. Using the fastest plate on the market, and working in the way just described and removing the plate from the developer to the fixing bath in a moderate light, we obtained perfectly clean negatives. With ordinary plates, or plates described as rapid or even extra-rapid, much more light might be used.

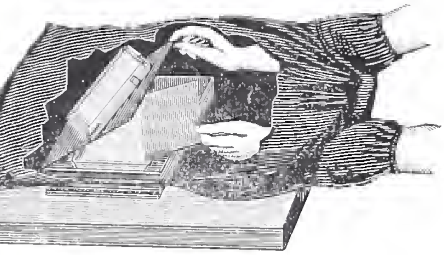
While the plate is in the Coxin and during development, it is desirable to rock the dish gently to ensure equal action over the whole of the surface, but the rocking should not be so violent as to expose the plate at any time to the light—a gentle to and fro movement is all that is required. No time should be wasted in transferring the plate from the Coxin to the developer, or from the developer to the fixing bath. Given these simple precautions there is absolutely nothing new to be learned. If one of the developing clips, now to be had in so many patterns, is used, there is no need for the fingers to be stained, but if a splash or two does occur, a brief rinse with soap and water will at once remove it. Similarly, there is no difficulty in getting rid of the red coloration from the negatives. Long before the hypo is removed the dye is washed out completely.

The gaslight papers have made printing an operation to be carried out in the sitting room, and Coxin comes to enable development to be conducted under the same cheerful conditions. Those who adopt the new conditions will find other advantages than mere comfort attaching to the change.

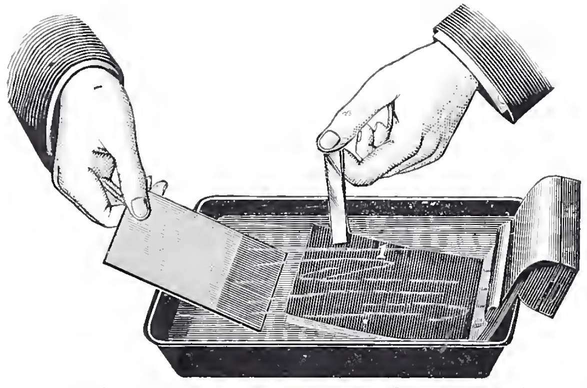
We have said that for those who prefer to do all of the work in bright light a changing bag has been devised. To some extent it is of the usual pattern—a wide opening at one end by which the dark slide can be introduced and capable of being closed with fastenings is provided. By the side of this opening are two other and smaller apertures

COXIN.

for the arms, with elastic bands to exclude the light. In addition to these is an opening with a wooden frame to fit over the dish of Coxin, and closed with a wooden flap. Through this the plate is conveyed, and when two minutes have elapsed the whole concern may be removed. The illustration above shows the method of using the bag. The device is, of course, of great value, and the cost is not great, but useful as it is, it is not indispensable, as we have already pointed out, and those who prefer the simpler method of working can do very well without it.



For working roll films there is yet another piece of apparatus, and one that so far we cannot see how to dispense with. It is shown in the illustration below attached to the side of the dish. The semi-circular box on the right holds the spool of film as it comes from the camera. The black covering paper is drawn out through the slot which is below the dye solution, and by drawing this along, the film follows. A thin sheet of metal shown on the left is inserted under the black paper and over the film to ensure the latter being held under the solution. When the required soaking has taken place, the section of film is cut off and transferred to the dish of developer in the same manner as with the plate, the only additional precaution being to keep it well under the surface. When the first section has been transferred to the fixing bath, the next may be proceeded with till the whole spool has been developed, or, if time has to be economised, two or more dishes of developer may be kept going as quickly as the time of soaking in the Coxin will permit. Although we have had an opportunity of testing this piece of apparatus, it is not yet on the market, and we are unable to say what the cost of it may be.



The Coxin solution is put up in tins at 2s. 6d. and 3s. 6d., and as it may be used over and over again, practically without waste, one supply will last a long time. The changing bags are sold at 6s. 6d. for quarter-plate size, and 7s. 6d. for half-plate size. These goods are placed on the market by Messrs. Butcher and Sons, of Camera House, Farringdon Avenue, but may be obtained from their agents and the dealers generally throughout the country.

THE BROMOGRAPH is an apparatus for the rapid exposure of bromide prints, that has been brought out by Messrs. Marion, of 22, 23, Soho Square. It will print from any sized negatives from quarter-plate up to 12in. by 10in. A roll of the paper is fitted to a mandril on the right hand side, brought across the negative, and clipped to a second mandril, by which it is wound up as the exposures are made. A clockwork movement regulates the exposures, which are made to the light enclosed in a lantern at the back of the apparatus. The saving of time by the apparatus is enormous, and the economy of material effected by its certainty in action must be equally great.

THE KEEPING QUALITIES OF PHOTOGRAPHIC CHEMICALS.

WE have just received for review from the publishers, Messrs. Hazell, Watson, and Viney, an excellent shilling handbook entitled "Elementary Chemistry and Photographic Chemicals," by our occasional contributor, Mr. C. Sordes Ellis.

It is one of the drawbacks which have to be encountered by the would-be student of the chemistry of photographic operations that the substances employed therein are usually of a more complex character than the simple salts which are those first studied by students of chemistry. Moreover, many of the photographic compounds are new introductions dealt with very slightly, if at all, in the text books. Such a work as that by Mr. Sordes Ellis, therefore, is a welcome one. It must not be supposed that chemistry can be studied from a book of this character by itself. That, of course, is out of the question, but it should be used in conjunction with one of the standard handbooks, such as that by Roscoe, and in combination therewith will give the photographer a real insight into the process which he is in the habit of using.

We cannot give our readers a better idea of the practical and useful nature of this new book than by quoting one of the tables which Mr. Ellis gives dealing with the keeping qualities of photographic chemicals.

CHEMICAL.	SOLID.	SOLUTION.
Acetone (liquid)	—	Indefinitely
Alum	Indefinitely	,,
Amidol ...	D.B. A year or so	A few hours
Ammonium hydrate	—	Indefinitely
,, bromide ...	Indefinitely	,,
,, sulphocyanide .	,,	A few months
Auric chloride	,,	Indefinitely
Benzene (liquid)	—	,,
Borax	Indefinitely	,,
Bromine	,,	A few weeks
Citric acid	,,	Indefinitely
Diphenal	—	D.B. Months
Eikonogen	D.B. A year or so	A few days
Ferric oxalate ...	A few months	,, weeks
,, chloride	Indefinitely	Indefinitely
Ferrous oxalate	A few weeks	D.B. A few days
,, sulphate	Indefinitely	,, weeks
Formaline (gas)	—	,, months
Glycin	Indefinitely	D.B. ,, weeks
Gold chloride	,,	Indefinitely
Hypo	,,	Long time, according to strength
Hydrochloric acid (gas) ...	—	Indefinitely
Hydroquinone	D.B Indefinitely	A few weeks
Iodine	Indefinitely	D.B. A few months
Lead acetate	A year or so	A year or so
Metol	D.B. A year or so	A few days
Mercuric chloride	Indefinitely	Indefinitely
,, iodide	D.B. ,,	—
Nitric acid	—	Indefinitely
Ortol	D.B. A year or so	—
Oxalic acid	Indefinitely	Indefinitely
Para-amido-phenol	D B. Indefinitely	An hour
Potassium bichromate ...	Indefinitely	Indefinitely
,, bromide... .	,,	, .
,, carbonate ...	,,	,
,, chloro-platinite	,,	,,
,, ferricyanide ...	,,	D.B. A few days
,, permanganate ...	,,	,, ,,
,, sulpho-cyanide ..	,,	,, months
Pyro	D.B. A year or so	,, hours
Pyrocatechin...	D.B. ,, ,,	,, days
Silver nitrate... ...	D B. Indefinitely	D.B. Indefinitely
Sodium acetate	,,	,,
,, bicarbonate ...	Indefinitely	,,
,, carbonate	,,	,,
,, sulphite	,,	A few days
,, phosphate	,,	Indefinitely
Sulphurous acid (gas) ...	—	A week or so
Tri-amido-phenol	D.B. A few weeks	D.B. A few weeks
Uranium nitrate	Indefinitely	Indefinitely

(D.B. = dark-coloured bottles, and in every other case well corked or stoppered bottles.)

On this subject, of great importance to every photographer, he says that the approximate keeping qualities only are given, as by additions some solutions will keep a longer time, which without the addition would not remain good for a day. An instance of this he gives in pyro, which in solution alone only keeps an hour or so, but with sodium sulphite or nitric acid will keep for weeks.

NEGATIVES ON KODOID plates may be safely stored by replacing them face-downward on the original cards and fastening them with the metal clips. The particulars may then be written on the back of the cards.—H.J.M.

THE BOY WITH THE "BROWNIE".

By "CUNCTATOR"

Special to Photography

HE was home for the holidays. A sudden influx of revenue into his coffers, with limited opportunities for expenditure, owing to an ill-timed attack of measles, had brought about that he had a sum total of seven and sixpence awaiting immediate investment. Some evil sprite whispered "Photography." Like the wonders of the fairy tale, "no sooner said than done," and he was the proprietor of a Brownie, a roll of film, a variety of strange and indistinguishable salts wrapped in many coloured papers, and—low be it spoken—a packet of cigarettes.

He was in the first flush of triumphant possession when I made his acquaintance. I was taking a photograph of some woodland pleasaunce when he burst, like a tempest, into my foreground. I had just taken off the cap, and was inclined to resent the intrusion.

"Oh! I'm so sorry," he said, with a counterfeit air of dismay as I explained his sin, "but I"—he stopped in evident confusion.

I refrained from helping him out of his difficulty. I was even callous enough to enjoy his discomposure. He moved uneasily from foot to foot, fiddled with his collar, while his face grew redder and redder. At length he stammered out:

"You see—I—that is—you—are a snapshot man (I was using a whole-plate, and giving an exposure of at least six seconds for the shadows)—and—I thought you might help me a bit—perhaps"—and he produced the Brownie, after a struggle, from his side pocket, followed inadvertently by the multi-coloured packages and the cigarettes. I looked at the boy and then at my camera. I was torn by conflicting emotions, for a space—then I elected for the boy.

I held out my hand for his Brownie with an air of infinite superiority. Should I permit this being to detect my comparative ignorance in matters photographic, I was lost for ever.

"Ah! a Brownie," I remarked indulgently.

"Yes. It's awful fine, isn't it? Only five bob, you know. The chap in the shop told me all about it."

I was not inclined to listen to a lecture on the internal economy of a Brownie. Was not I the possessor of a whole-plate?

"I know, I know," I interrupted; "how many films are there in it."

"Six, I think, or twelve. I don't remember which. Wait a bit, I've got the directions."

He dived down into his pockets once more and withdrew therefrom a small pamphlet, torn and dirty. Together we perused it, and left the perusal each, if the truth were told, knowing less about the matter in hand than the other.

"Let's go and take something," he suggested, as he shovelled his goods back into their respective resting places.

"Take what?"

"Oh, I don't know! There's the trains, or Smith's dog that jumps, or you dive into the beck, or skip, or something," he answered, fishing amid a hazy recollection of an advertisement of some focal plane shutter.

"Don't you think you'd better start on something rather slower?" I queried, recalling my sole attempt at a train in motion and the resultant tribulation. "Well, perhaps we might," he assented, looking round critically, "let's take that—cottage."

I looked at the spot indicated. The boy had certainly excellent taste. The cottage was largish and overgrown with roses. Either by design or accident, an opening in the foliage permitted a bar of sunshine to strike the trellissed porch, which, breaking a way into the comparative darkness within the open door, afforded a glimpse of a flight of oaken stairs that had creaked beneath the tread of generations. Above, diamond-paned casements stood open to admit the balmy breeze that rustled through the cordon of trees as if impatient to enter.

The boy had hit upon the heart of the landscape. We moved a little nearer to obtain a better point of view.

"Don't you think," my companion asked dubiously, "that it would look better if there was someone there?"

The sentence was a trifle vague, but I read therein a desire for human interest.

"Perhaps. But I don't see how we are to find anyone. You or I——."

The boy was whistling a few bars of some air of the moment, and I thought my lecture on the impertinence of modern dress in such scenes bid fair to be wasted. These bars he repeated, after waiting awhile, listening. Suddenly from behind the cottage came an answering call, followed by its author. "Drat the boy and his excellence of taste," I said to myself. For there had appeared before the cottage a laughing girl, fair-haired, and rosy-cheeked.

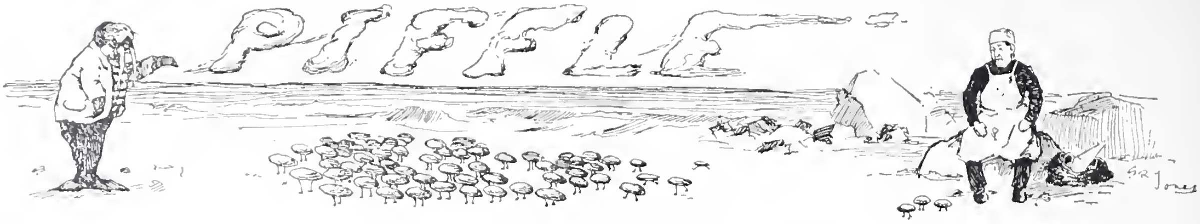
"Stand there, Maud," the boy cried, "and I'll take your photograph."

The Brownie was snatched violently from my hands, and in a moment had made its first exposure. The boy pressed the wrong button; the film was not in place; the subject stood in the shadow, and the exposure was a negligible fraction of a second. What *did* it matter?

I was introduced, with a show of formality, to Maud, and we set about the taking of the cottage. But its beauty had fled before the onslaught of human interest. The proceedings were forced and moved with the ponderous footsteps of the schoolroom. Maud stood in the porch in an attitude of marked constraint, while we sought the best point of view. I allowed myself to be inveigled into selecting that which showed Maud to the best advantage. Then I gave instructions to the boy for development, which he forgot as he heard. Why ever did I not go?

At last the boy took things into his own hands. He offered me thanks for my advice. He even went so far as to promise me a print. Then he went, taking the human interest with him. I returned to solitude and my whole-plate. "Plague take photography," I said as I slammed the things back into my case. A call from above made me look up. Standing on a knoll a little way off appeared my late companions, arm in arm now, with the Brownie once more a consort of the cigarettes. "Good bye," came down the breeze in the accents of the girl.

As they moved away once more, I would have given all the whole-plates in the world for one moment of life as a boy with a Brownie.



"The time has come, the Walrus said, to talk of many things."

THE life of a Member of Parliament is not all beer and skittles—I beg pardon, champagne and billiards. For one thing, it is inevitable that sooner or later he will be captured by Sir Benjamin Stone and led forth to be executed—I beg pardon again, photographed. Further, Sir Benjamin has now placed a collection of his Greek photographs on view in the House.

* * *

Parliament has adjourned.

* * *

The precedent is a serious one. Suppose every member who photographs, and I suppose they all do, should hang up his prints at St. Stephens. That would mean payment of members at once, because no one would stand that sort of thing for nothing.

* * *

Sir Benjamin has another project in view—to photograph the faithful Commons during one of their sittings, with the Prime Minister speaking at the table. He is more likely to succeed if he selects a speaker whose somnolent style will reduce the members to a state which would render quite safe an exposure of thirty minutes or so. It is a good thing that Sir Benjamin did not select that memorable occasion some years ago when the floor of the House presented a realistic representation of the Battle of Armageddon or Donnybrook Fair, and when (to quote Washington Irving) "black eyes and bloody noses swelled the horror of the scene." What an exposure that would have been.

* * *

The *Glasgow Evening Times* has an article on "Photography after Rain." This is all very well, but it is a weary business waiting for the "after." Can't someone suggest something to be done *during* the rain? This would give us a year or so of continuous work, and if the rain should by any chance then cease we would fall back on the other article.

* * *

Since Mr. Algernon Fitz-Harding Adolphus Jhones-Smythe bought a Brownie camera early in the year, he has done considerable execution with it, and his P.O.P. prints in slip-in mounts have been much admired by himself and family. It is, therefore, with something like dismay that I learn on the best authority (his own) that he has steadfastly determined not to contribute to the R.P.S. Loan Exhibition. Not only this, but his friend, Miss Euphrasia O. Spanker, of Chicago, has also resolved to stand aloof. The exhibition will, therefore, in all probability, be abandoned.

* * *

It transpires that by some inexplicable oversight neither of them was asked to contribute.

* * *

It is said that when a London 'bus-driver has a holiday he spends it riding on another 'bus as a passenger. But when a professional photographer takes his annual vacation he will feel indignant at the very sight of a camera, and as for taking one away himself he would as soon think of taking his mother-in-law. The amateur photographer, on the other hand, commences weeks before his holiday to lay plans for taking away cameras many and weighty; he lays in huge stocks of plates, and makes elaborate arrangements for developing and printing on tour. When he packs his trunks he dumps in all his photographic paraphernalia first, and it's a thousand to one that by the time he has got it all in there is not room for a reserve collar-stud.

* * *

His holiday is a burden. From its beginning to its welcome end he is hampered and throttled by his photography. It is to him what the Old Man of the Sea was to Sinbad. All the time he is on thorns lest something may be wrong, and it's long odds that something *is* wrong. For weeks afterwards he works like a galley-slave, developing and printing; and when at last he finishes his self-imposed task he finds himself the possessor of a colossal collection of ghastly failures.

* * *

Alas! how many readers of this paper have recently spent their holidays in this way in spite of previous bitter experience. I was very near playing the same old idiotic game again myself, but, thank goodness, I have escaped for once. For I saw in a newspaper the advice of a medical man (blessings on his Æsculapian lore) as to the very best way to spend a holiday. The advice is brief and simple, and if you will take the word of one who has tried it you may conclude that it is invaluable. The advice is—Spend your holiday in bed.

* * *

Glorious! No sweating under cameraneous burdens, no anxiety about correct exposures, no sloppy developing, no tedious printing, no wholesale production of unpictorial monstrosities. Simply—bed! And if in a weak moment you should regret the fact that you are wasting opportunities, all you have to do is to hang some of your previous photographic productions round your bed, and see what you are being preserved from.

* * *

The *Daily Mail* says: "It is known to but few that the King is a keen photographer, and wherever he goes he takes with him a camera for the purpose of taking snap shots. This camera is a very small one, which is doubtless the reason it has been unnoticed."

* * *

Now, the *Daily Mail* is such a mirror of truth and paragon of accuracy that it rends my heart to have to cast so much as a semblance of doubt on even one of its lightest utterances. But this is too much. Here is our King taking snap shots everywhere he goes with a camera so small that none but the "heagle heye" of the *Daily Mail* has spotted it. Who made that camera? How many such cameras can you get on a threepenny bit? How many do they run to the grain? Let us have details; for the camera that the King could use anywhere without anyone (except the *D.M.*) seeing it is the camera I have been looking for myself.

* * *

It is astonishing that the King should have been doing all this photographic work (the *D.M.* says there are several volumes full of his prints) and yet no one (except the *D.M.*) has noticed it. Because, mark you, the King has lynx-eyed critics. Quite recently there were elaborate paragraphs in the paper recording the fact that he appeared in public with his trousers creased port and starboard instead of fore and aft.

* * *

Was this simply a device of his for distracting attention from the camera? Who knows?

* * *

By the way, is His Majesty a subscriber to *Photography?* If not, why not?

THE WALRUS.

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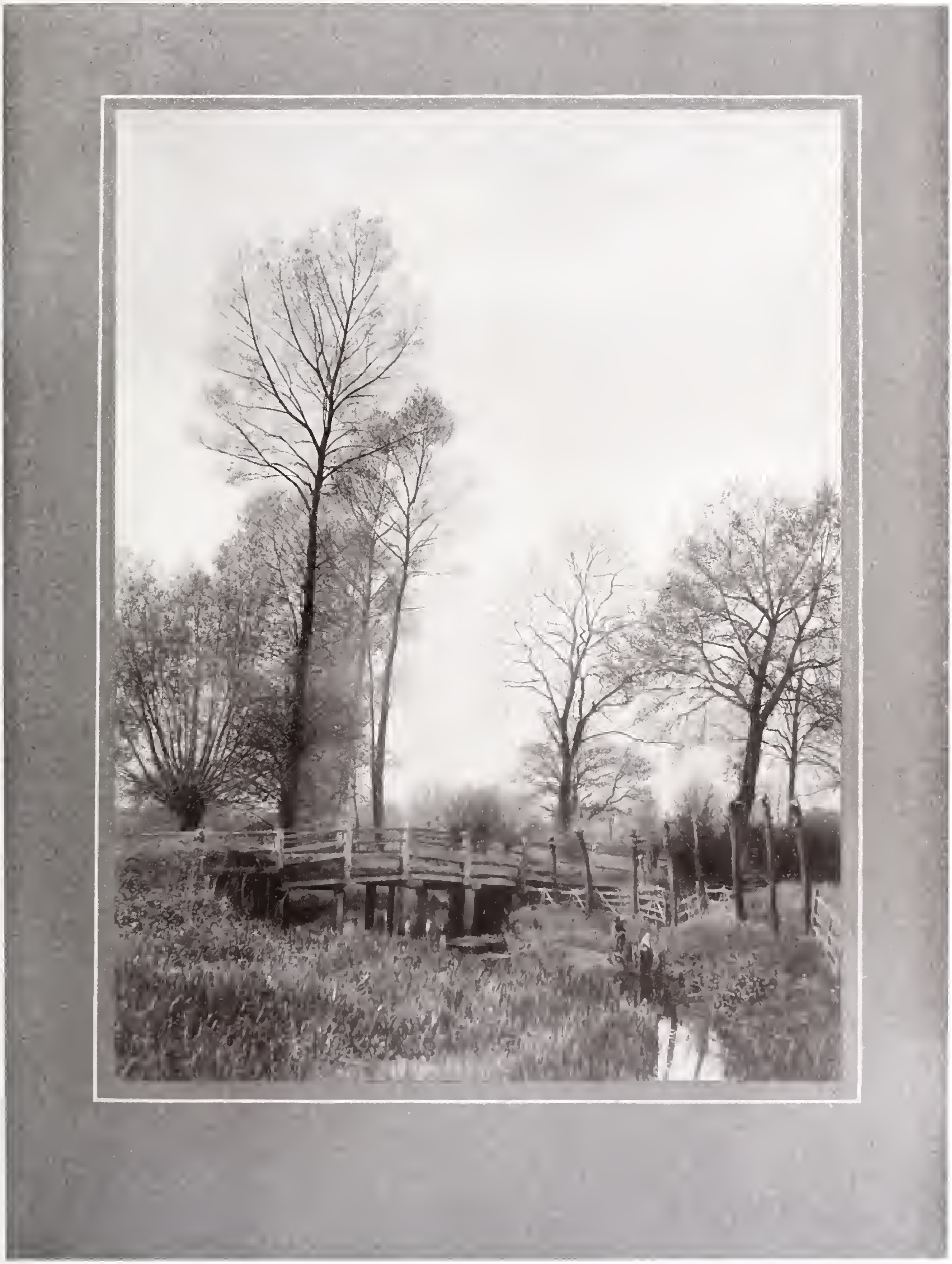


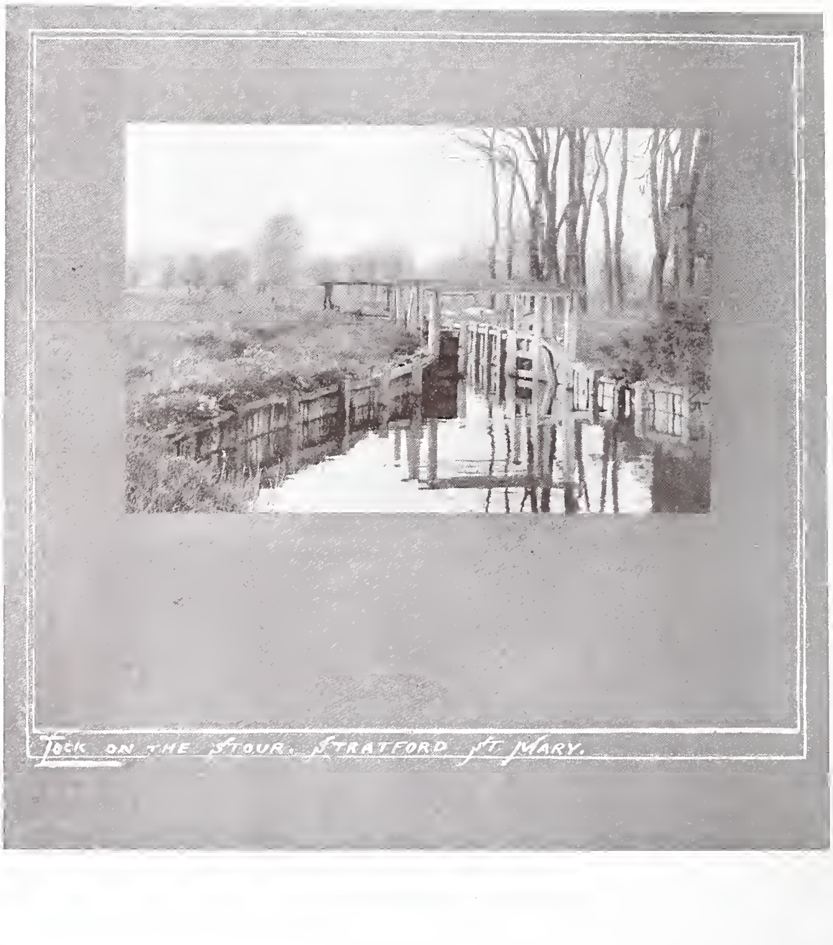
AN OLD BRIDGE AT DEDHAM (See Page 191) BY JAS. GOUGH.

A Camera in Constable's Country

BY JAMES GOUGH

THE traveller on the Great Eastern Railway on his way from London to Harwich or Ipswich may possibly notice on the left-hand side, just after he passes Ardleigh Station, a church tower in the distance which seems strangely familiar. It is just a square with four pinnacles, set low down in a peaceful little valley and surrounded by trees which hide all but its topmost portion. There is nothing to mark it out from thousands of others dotted over the face of England, yet if he is anything of a picture lover he can hardly fail to feel that he does not see it for the first time. He has seen it, or something very much like it, many a time, whenever he has seen one of Constable's pictures in which Dedham Church figures, often in situations which, when Constable-land is better known, will be found to be clearly impossible to the photographer, though practical enough to the painter.

Yes, the valley which the train crosses just about Manningtree, on a low pile-supported viaduct, is that of the Stour, and higher up it by the trees lie Flatford, Dedham, East Bergholt, Stratford, and the other localities immortalised by the brush of one of England's foremost landscape painters.



LOCK ON THE STOUR. STRATFORD ST. MARY.

The Vale of Dedham, for one reason or another, has enjoyed a greater popularity amongst photographers than painters, although a fair number of the knights of the brush are to be found there. If you wander into the very comfortable little hostelry—the Marlborough Head, Dedham—and look through the visitors' book that is kept there, you will see a list of names that looks more like a copious abstract from the list of exhibitors at some photographic exhibition. Name after name will be read of men whose work has been seen any time during the last fifteen or twenty years, and the photographer might well be discouraged with the thought that nothing is left for him to do that has not already been done too often.

Let him put aside such unworthy ideas. In Constable-land, as elsewhere, the face of Nature is always changing, as he might have learnt from the works of the painter himself, and as if Nature does not change her face often enough to suit him, mankind, in the shape of some barbarous parish or county council, will do it for her. The Goths who are responsible for the disfigurement which is shown on pages 198 and 199 should suffice to provide for the mutability of the picturesque, and show the way in which the beauty spots associated with a great artist appeal to the bucolic mind and the parochial idiot. Fortunately, although thanks to unwearied local effort Dedham and its district are being gradually spoilt, there is still plenty left to attract not only the admirer of Constable, but all those to whom the peaceful beauty of English countryside has any charm at all.

Nowhere can this be met with in more profusion than in the lanes and fields beside the Essex Stour, and it is to act as some sort of guide to those who wish to seek it there that this article is written.

The photographer who wishes to see Constable's country would do well to make his headquarters at Dedham, if for no other reason than because he will hardly find more comfortable quarters than at the Marlborough Head. Ded-

Valley Farm, Flatford.

ham is some three miles from Ardleigh Station on the G.E.R main line, and a note to the inn will bring a pony trap to meet the train. Those who prefer to walk will have no difficulty in finding a short cut across the fields as soon as Ardleigh village is passed, and those to whom a longer walk seems desirable may prefer to go one station further on and alight at Manningtree, making their way along the river past Flatford Mill and Bridge to Dedham Bridge itself. The river walk is practicable except in very bad weather, when it is better to keep to the high road.

Arrived at Dedham, the only trouble the photographer is likely to encounter is to which direction to turn first. The village itself is not particularly valuable from a picture-making point of view, although neat, cleanly, and, in appearance at least, excessively sleepy. Just off the road to Ardleigh is a quaint group of old timbered cottages with a courtyard in the middle, which will not be without attraction for some. Dedham Bridge, the first place to which the visitor turned, as I have already said, is now no more, but the little backwater just beyond it is still spanned by a wooden structure of a similar sort to the old bridge, shown in the illustration on page 193. Passing down to the bridge and crossing it, there are the Gladstonian three courses before us. Keeping straight along the road we shall gradually ascend to the little village of East Bergholt on the ridge which bounds the valley; notable principally as the birthplace of Constable, who here first saw the light on June 11th, 1776.

The painter's father was a farmer and miller, and the lad commenced work on one of the paternal windmills. There are those who attribute his mastery of cloud effects and atmospheric changes to his early labour as a windmiller, and the attention which he was compelled to give to the weather. The photographer must at least pay a visit to East Bergholt, even if he finds little there to occupy his camera.

The other two courses alluded to are to the right and left respectively along the river's bank. Let us turn to the right first. We cross Dedham Bridge, pass through the little wicket gate on the other side of it, and follow the river till we reach the next bridge, shown at the foot of this page. This, though picturesque enough in its way, does not lend itself to photographic treatment very well, so we cross it and pass along the towpath to Flatford Bridge, which will be recognised at once. If instead of crossing it we turn to the left up a narrow lane, we shall find ourselves in East Bergholt in a few minutes.

Flatford Bridge and Mill are well-known. Pleasant as they are to the eye, beautiful as they appear in Constable's work, I have yet to see a really successful picture of either subject by the camera. The lock, too, is not quite satisfactory, somehow or other, though it is doubtful, once there, whether the photographer will not try his hand at it. Crossing Flatford Bridge, and turning sharp round to the right, in half a minute we see before us Valley Farm, an old and unspoilt gabled building beside a backwater.

From Flatford again we can make our way up to East Bergholt and so back to Dedham, or we can follow the river still further, right on, in fact, to Manningtree and beyond, if we seek for work of the marsh and salting type. Cattle are plentiful along the banks of the Stour, and in hot weather when they come down to the water's edge for coolness and to drink will be found very helpful.

Returning to Dedham, we can turn to the left instead of the right, past Dedham Mill and cottage, where boats are let out on hire—"No boats let out on Sundays"—and follow the river along the towpath to Stratford St. Mary. It is bordered by pollarded willows, and is full of work for the camera.

Along here may be seen at times a curious sight, which, so far as I am aware, is peculiar to the Stour, the jumping

barge horses. The towpath is not separated from the fields beside the river by any fencing, and so these fields would all communicate one with another by means of the path, and it would be impossible to prevent the cattle or sheep in them from wandering but for some such device as is here employed. The fences come right down to the water's edge, crossing the towpath itself, although at the crossing point the fence is not very high. As the barge comes along the horse is taught to wait at one of the fences until the tow rope is a little slack and then to leap the fence and go on its way. The sight is a curious one at first, and did not escape the notice of the painter, who has depicted it in his "Canal Scene."

The towpath, moreover, along the Stour is not to be trusted too implicitly by the foot passenger. At times it disappears altogether, and at others transfers itself without warning and, what is more, without bridge to the other side of the river. The horses splash through with water up to their bellies; the photographer, unless a boat is at hand, has no choice, and must turn back.

Stratford St. Mary is the first village above Dedham. It is a pleasant walk along the high road to it; but the river side is quicker and better for the camera. The village itself is plain and unpretentious, and the big mill, which is its most prominent object, is ugly enough, and, moreover, is closed and unused. Crossing by its dam, we find ourselves at Stratford Lock, one of the most picturesque in the district, with a clump of trees on the island formed by the backwater. In early summer the long grass in the field beside the lock is full of wild flowers, which are very helpful in the matter of backgrounds. The towpath may be followed for half a mile, and then returning to Stratford, the high road taken to Langham Hill, with its curious bridge and backwater. From Langham we may take the footpath past another "Valley Farm" to Boxted, and thence can follow the road to Stoke by Nayland, where Constable-land may be said to end.

As an ideal spot for a quiet week, I know of no place at once so near London, so remote from anything like the sightseer and tourist, so secluded and so full of material for painter and photographer alike. It is almost as accessible from the Midlands as from London, thanks to its nearness to Harwich and the excellent cross-country Continental train service to that port provided by the Great Eastern Railway.

There is only one word of caution to give the would-be visitor, and that is against expecting to see anything too closely identical with particular pictures of the painter whose name has been conferred upon the region. He has caught the spirit of the land in a way which the photographer cannot hope to do, but has idealised the subjects of his brush and has taken liberties with topography such as lie outside the scope even of the gum bichromatist. Perhaps it is just as well that he cannot be slavishly photographically copied; he may at least be reverently studied and the teachings of his life work laid to heart.

The Photography of Cats. By Mrs. S. Francis Clarke.

Notes from a New Work being issued by Cassell and Co.

The book of the Cat is a publication in twelve monthly parts, which is now being issued by Messrs. Cassell and Co., Ltd., at a shilling a part. In part eleven which has just made its appearance, we are glad to note the name of Mrs. Clarke, of Louth, Lincolnshire, in whose able hands has been placed the chapter dealing with the photography of Cats, from which we have extracted what follows. The name of Mrs. Clarke may not be familiar to those of our readers who have taken up photography recently, but a few years ago there was no more persistent or successful exhibitor.

To the amateur wishing to take up this fascinating, though somewhat difficult, branch of photographic art, I venture to offer a few suggestions. The subject naturally divides itself into two distinct branches—the commercial and the artistic. By the "commercial" I mean all photographs taken with the special aim of showing the shape and points of the cat from the fancier's, owner's, or purchaser's point of view. In the "artistic," I include all those pictures where the cat is used as a model only. In either kind of work almost any sort of camera and lens will do, provided it will yield a fair definition and admit of rapid exposures. If one possesses a portrait lens all the better. At all events, use a lens which will give you good definition at a large aperture. A good make of roller blind shutter is an important accessory, with a sufficient length of tubing to the pneumatic release to enable one to move about freely while holding the ball and to get close up to the cats while making either time or instantaneous exposures. The camera stand should be very firm and rigid.

I like best to work in the open air, my studio being the small open run of my cattery. If the light is too direct or strong I diffuse it by stretching light blue art muslin curtains above the table or stand upon which the cats are arranged. These curtains run with rings upon cords stretched from the boundary walls on each side, so that they may be moved in any way the lighting may require. For background a dark plush curtain will be found useful. Avoid figured backgrounds, as they detract from the value and crispness of the cats and accessories.

Three things are absolutely necessary to successful photography of cats for either commercial or artistic purpose—time, patience, and an unlimited number of good *quick* plates. Of all animals the cat is possibly the most unsatisfactory sitter should we attempt by force to secure the pose we desire. By coaxing we can generally get what we wish. Patience is the keynote of success. Before commencing, make up your mind as to what points you wish to show; then pose your cat gently and wait patiently until the pose becomes easy. She may jump down or take a wrong pose or go to sleep a dozen times or more, but never mind, give plenty of time. It is here where patience tells. Wait and coax until you see just what you desire, then release the shutter and make the exposure. At this point never hesitate or think twice—especially with kittens—or the desired pose may be gone, and will possibly cost you hours of waiting again to secure it.

Before photographing a cat for its general appearance or for any special points, it is essential to have it thoroughly groomed and got up as carefully as for show. Speaking generally, the coat of a long-haired cat should never be roughened; it altogether spoils the shape of the animal, and does not in any way improve the appearance of length, quality, or texture of the coat. In all cats where their markings are one of their chief points—such as tabbies and tortoiseshells, etc.—this roughening should be specially avoided. There is, possibly, one exception to this advice, and that is in the case of "smokes," where it may be, and sometimes is, desirable to turn back a small patch of the fur to show the quality and purity of the silver undercoat. In such cases the turning back must be done only for this purpose, and in such a natural way as not to interfere with the general flow of the fur or the shape of the cat. In posing a cat, it is well to remember its faults as well as its good points, so that the former may be hidden as much as possible and the latter displayed to the best advantage.

Turning now to the more artistic side of cat photography, we find our real difficulties begin, for in photographing for the showing of points we seldom have to deal with more than one cat at a time. It is when we attempt deliberately to pose two or more cats or kittens, to carry out a preconceived idea, that our real troubles begin, and also that the patient skill of the amateur wins its best reward.

Before commencing, be sure you have *an idea* to work out in your picture, and of the lines you hope to follow in giving it expression. If possible, make a rough sketch—no matter how rough—of this idea, showing the position not only of the cats, but also of the accessories needed. Be careful to keep the composition simple and not to overcrowd it. This sketch will greatly assist you in arranging your picture and posing your cats. Before you attempt to pose the cats it is absolutely necessary that all accessories should be fixed so that they cannot be knocked over, or the cats will get frightened and be useless as sitters for a long time to come. That cats are nervous should never be forgotten, and any chance of startling them strictly guarded against. When your background, table, and accessories are all in their places, put your camera in position, arrange the picture on the ground-glass, and see that you get all well within the size of the plate; it is safer to have the picture on the ground-glass a little smaller than the plate will allow, as, if one tries to get it to its utmost size, one may find in developing that one of the models has moved back on the table an inch more, perhaps, than calculated upon, and as a result have half a cat on one side instead of a whole one. The background, however, should be large enough fully to cover the ground-glass. Focus the foreground and nearer accessories, stop down to f/8, set the shutter to about 1-30 to 1-50 second (according to light and nature of subject), insert the slide containing the rapid plate, draw the flap *under* the dark cloth, and if at all windy tie this last to the camera. Now you are ready for the cats and a suitable moment of light.

Stratford Lock (see page 194). *By Jas Gough.*

As I have already remarked, I do my photographing out of doors. I therefore choose a bright warm day, when there are plenty of fleecy clouds about; so that by taking advantage of their position in front of the sun, and by the help afforded by my muslin curtains, I am able to modify the harsh contrasts incidental to working in broad daylight.

I must again point out the great convenience, especially in this class of work, of the extra length of tubing, which allows you, while holding the release in one hand, to pose your models with the other, and then expose without the fatal loss of time that would be entailed by having to step back to the camera or by giving the word to an assistant.

Isochromatic plates should be used in all cases where there are mixed colours in the cats' furs, as in tortoiseshells, brown tabbies, etc.; mixtures of red, black, and yellow cannot be truly rendered with ordinary plates. The only extra precaution necessary in their use is *absolute* freedom from actinic light in the dark room. Double ruby glass in the window, or, if artificial light is used, an extra thickness of red tissue paper round the developing lamp, will answer the purpose and make everything safe. With this little extra care, nice crisp negatives are obtained, while the relative values of the red, yellow, and black seen in our furry friends are well defined in the resulting picture.

Cats used as models should, if possible, be in the pink of condition—the prettier the model the more pleasant the picture. The best time to photograph a cat is about one hour after a light meal. Immediately after a meal most cats want to wash and sleep. A hungry cat or kitten makes the worst of sitters; its thoughts are too much turned towards the inner man. Never overtax your cats, give them plenty of rest during a sitting, and never lose your temper and attempt by force to secure a pose; it only frightens the cats, and can never result in satisfactory work. Time and patience should always in the end achieve what you desire.

The Old Dedham Bridge as it was

BY A.D.HALFORD.

INCREASING THE KEEPING QUALITIES OF CARBON TISSUE.

A Communication made by Prof. Namias to the Congress of Applied Chemistry, Berlin, 1903.

MIXTURES of colloids and alkaline bichromates, it is well known, keep very badly. The insolubility which is brought on by light is also brought on, although much more slowly, in darkness. This constitutes a very serious inconvenience, alike in the carbon process, in gum bichromate work, and in most photo-mechanical methods. In order to increase the keeping properties of such compounds I have tried adding to them alkaline salts (generally the sodium salts) of certain organic acids. Up to the present time my attempts have been made principally with acetates, succinates, tartrates, lactates, citrates, and oxalates.

Instead of sensitising the carbon tissue in a simple bichromate solution, a three per cent. solution of bichromate was used, containing from two to three per cent. of each of the salts named. Some showed no traceable preserving action, nor did they, on the other hand, accelerate alteration. Such were the acetates and succinates. On developing the tissue no advantage was perceptible.

Some of the other salts show a considerable reducing action on bichromate, and, instead of increasing the keeping properties of tissue, hasten its decomposition. Such are the tartrates, and more especially the lactates. The tissue spoils more rapidly than the comparative tissue. It is quite possible that the lactates may be found to be useful in the future as sensitisers to light, making a tissue faster than those ordinarily employed.

On the other hand, some of the other salts, particularly the neutral oxalates and citrates, and especially the latter, act as powerful preservers. Carbon tissue prepared with such salts is almost as good after being sensitised a month as if it had just been sensitised on the ordinary lines, and even after two months it is still workable. Tissue sensitised on a bath containing the oxalate shows a slight discoloration in the print, but still strips easily.

How can we explain the action of these salts? In an article published in 1902 on the action of compounds of chromium with gelatine, I pointed out that the action of chromates and bichromates was double; that is to say, both an oxidising and a tanning one. The tanning action is produced by chromium chromate, which is formed when chromates or bichromates are reduced by the action of light. The same change which is brought about by light is brought about, only much more slowly, in darkness. In the same paper I pointed out that the salts of chromium with organic acids are incapable of exercising this action of rendering gelatine insoluble by light.

Does it not then seem that we may admit that:

(1.) The alkaline salts of certain organic acids impart to the bichromate a moderated power of reduction, affecting particularly that oxidising action which takes place when they are kept.

(2.) The alkaline salts of those organic acids that are capable of decomposing chromium chromate, so as to form an alkaline chromate and a salt of chromium with the organic acid, tend to prevent the tanning action caused by keeping the sensitive product. Under this head should be found the citrates and oxalates. As far as the action of light is concerned, if the citrates or oxalates are not present in a very considerable quantity, they may retard it a little, but cannot prevent it altogether; for as I have shown formerly, the action of light has produced highly basic chromium chromates, which act very powerfully in rendering the gelatine insoluble, which highly basic chromates, we may suppose, would not be decomposed by the alkaline citrates or oxalates.

PANAXE: ANOTHER NEW DAYLIGHT DEVELOPER.

DEVELOPING without a dark room has certainly "caught on," to use the popular phrase, if we may judge by the number of preparations that are being offered to the public. Mr. Baskett's suggestions as to the use of gravy colouring, stout, mud, and other home compounds have doubtless helped to call attention to these preparations; and to the worker who prefers to employ a commercial product which he can rely upon as being made to a definite formula instead of having to find out by experiment, with the loss of negatives attending it,

The New Dedham Bridge as it is

BY S. LLOYD.

and the exact strength to use, the latest thing of the sort which has come under our notice will certainly appeal.

The Axe Brand specialities, which have been brought out during the last few years by Messrs. Fuerst Bros., of 17, Philpot Lane, E.C., are well and favourably known to our readers; and the latest—Panaxe—a daylight developer, has appeared at the critical moment, when most photographers have had their attention directed to the means of dispensing with the dark room. Coming in the middle of the holiday season, tourists will welcome it.

Panaxe from its behaviour appears to be a developer of the metol-hydrokinone type, well compounded, giving density readily, yet with the alkali in moderate proportions, so that the image does not flash up too hurriedly. Development is completed in from four to five minutes. The red dye has been added to this in such a strength as to make it in bulk nearly if not quite opaque. The instructions are to pour the Panaxe into the developing dish to a depth of one inch. As this, even in the case of a quarter-plate dish, involves the use of many ounces, the idea appears to be that the developer should be used repeatedly. When a number of plates have to be developed at one time this repeated use may not lead to evil results, if it is borne in mind that on each occasion development will take a little longer than during the preceding operation. As, however, the dye conceals the effects of oxidation on the developer, care must be exercised not to employ it after it has become exhausted.

The plate must be inserted into the solution in the dark, and bright light should not be allowed to fall upon the dish for two or three minutes. By employing these precautions even the most rapid plates may be developed in safety. The developed plate may be transferred from the developer to the fixing bath without injury in moderate light, and by the time fixation is complete a very considerable portion of the colour taken up by the film is discharged, and the remainder is quickly washed out, leaving the negative perfectly clear. To the holiday traveller and to those who have no regular dark room, Panaxe will come as a boon, and enable development to be conducted in comfort. The solution is put up in eight ounce bottles at one shilling and sixpence each.

A NEW COLLODIO-CHLORIDE PAPER. THE KODAK BRAND.

COLLODIO-CHLORIDE paper has for many years now been gaining in popular favour, possibly because of the resemblance it bears in many respects to the one time universally used albumenised paper. Its perfect freedom from tackiness, and the ease with which it may be handled without injury while yet wet and during mounting, are advantages that cause it to compare very favourably with gelatino-chloride paper, notwithstanding the difference in the cost. At one time the tendency that the collodion paper had, in common with the albumenised, to roll up when dry and to crack when it was again unrolled, militated somewhat against its general employment, but modern methods of manufacture have entirely overcome this tendency.

The Kodak paper is made in two varieties, glossy and matt. The glossy has a natural surface equal to that of a well burnished print, and the matt, while being quite smooth, is absolutely free from glaze. It is in consequence suited for all styles of work, and the results on both varieties are perfect of their kind. The range of tones obtainable is very wide, varying from red chalk, through shades of brown, to a good engraving black, according to the baths employed. In a general way the glossy variety is better toned to a warm or to a purple brown, while red chalk and black tones are better reserved for the matt paper.

Whatever the treatment to be adopted, the printing should be carried distinctly farther than is wished for in the picture, to allow for the loss in toning and fixing, and, as a rule, the negatives which show the strongest contrasts should be reserved for the matt paper. The instructions issued with each packet are very minute, and embody information as to points in practice that will be found useful by the expert worker no less than by the tyro. The first washing ought to be very thorough, and the instructions are wisely imperative against the unnecessary handling of the prints, a practice that leads to red stains very difficult to get rid of in the toning bath.

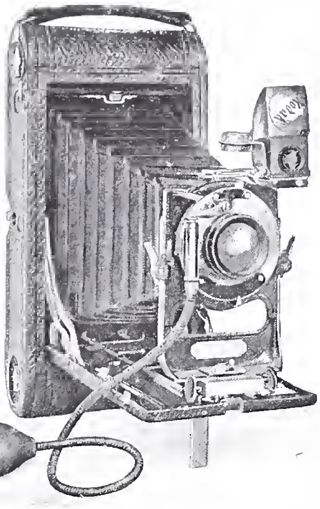
With the matt surface paper, toning first with gold and then with platinum is recommended. Very minute instructions are given, and it is desirable to follow these closely rather than to use other methods, no matter how successful they may have been with different paper. When black tones are wanted the negative must have sufficient contrast and the printing must be carried far enough to give bronzing in the shadows. For red tones the printing need not go farther than with the glossy paper. The prints are for black tones first toned in a gold solution made alkaline with borax till the shadows are a chocolate brown. Should there be any signs of the half-tones bleaching more borax must be added. The prints are then washed and transferred to a bath of potassium chloroplatinite and citric acid until the last traces of red or brown are gone from the shadows. If the best results are to be got, the toning in the platinum bath must be very thorough. Complete toning clears the whites and gives richness to the shadows.

One peculiarity of the paper is that it may be glazed on talced glass or ferrotype plate in the same manner as with gelatino-chloride paper, an attribute that will make it doubly welcome to those who find highly glazed prints to their taste. The hints on spotting, burnishing, and mounting will all prove useful to the careful worker.

A New Kodak. The No. 3a F.P.K.

THE folding pocket Kodaks have been long before the public in a variety of sizes, and have won their way by their compactness, the simplicity of the mechanism, the soundness of the construction, and the beauty of the finish. The patterns hitherto brought out have been for photographs either absolutely square as with the No. 2 (3½in. × 3½in.), or for shapes like the popular quarter-plate and 5in. × 4in. sizes, which approach too near the square to meet the views of many workers.

Recognising the desire for a camera which should take negatives of a more oblong shape, the Kodak Co. have now brought out an addition to the series in which the shape of the negative is of a more pronounced oblong or panel form. The actual size is 5½in. × 3¼in., which is almost identical in shape with the 7½in. × 5in. plate carried by so many picture makers. It is, indeed, just a trifle more oblong, and this excess of length over width will be found of the greatest service when, as is most usually the case, the composition of the picture is horizontal.



In vertical compositions, when figures form the subject, the panel shape will require less trimming than the older and squarer shapes, and much the same thing applies both in landscapes, when the vertical composition is adopted, and in photographing churches with tall spires and other architectural subjects. It has, in fact, long been pointed out that the old photographic sizes entail a considerable waste of material. The new form not only economises film and paper, thus effecting a saving of much importance to the photographer, but enables a much larger picture to be taken with a camera of compact size than was the case heretofore.

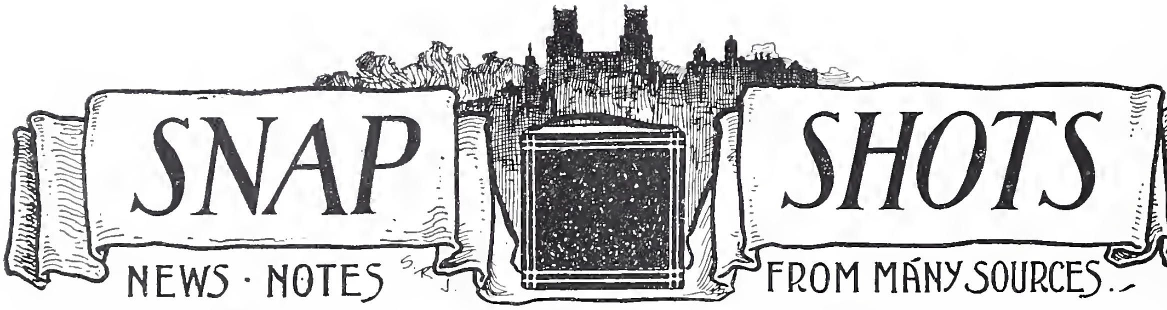
The size of the 3a camera when folded is 9½in. × 4¾in. × 1⅞in., showing a considerable saving in bulk by the reduction in width, and the weight is 38½ ozs. The general construction is very similar to that of the other sizes, aluminium is largely employed in the framework, and the camera is covered in seal grain leather, with nickelled fittings. The base plate when folded down is seen to be lined with a mahogany plate, bearing the nickel-plated guides on which the lens front runs. The lens is a rectilinear working at f/8, and fitted with the F.P.K. ever-set automatic shutter, giving time and instantaneous exposures, or if the pneumatic bulb is used, quick exposures of any duration may be given. The camera may also be had with a Bausch and Lomb shutter, giving exposures from one-hundredth of a second upwards. As will be seen from the illustration a brilliant reversible view finder is attached, and by the side of this, reversing with the same action, is a spirit level.

The lens panel is capable of being raised or lowered in both the upright and the cross directions. The baseboard and the side of the camera are both bushed for the tripod screw, permitting the camera to be supported on the tripod in position for either vertical or horizontal pictures. The focussing scale is engraved for distances of from 6ft. to 100ft., and is also divided into metres.

An extra back is supplied for use with slides for glass plates. These slides are single, made of aluminium, and take quarter-plates.

The arrangements for carrying and winding the spool are of the usual nature, and call for no description. We can compliment Kodak, Ltd., most heartily upon the introduction of this new instrument, believing that it will meet the desire for a better shaped picture than the 5in. × 4in., and at the same time will educate a large section of the photographic public to produce prints of this more agreeable shape. The size of the picture is the maximum official size for postcards. As the address and communication may both be written on the face of the card, the whole of the back may be reserved for the print, which in the present instance will just fill it. It has been suggested that the instrument should be called the Postcard camera, and the title would be a distinctive one.

The price of the camera with the F.P.K. automatic shutter is £4 10s., or with the Bausch and Lomb shutter, giving varying speeds, £5 2s. 6d. The price of the glass plate adapter is 12s. 6d., and the single dark slides 2s. 3d. each.



P.O.P. PRINTS MAY BE REDUCED LOCALLY in the following way. The print is wetted, and all surface moisture blotted off. The parts that are too dense are then brushed over with a five per cent. solution of potassium iodide. When sufficiently reduced, the action may be arrested by plunging the print in running water.—*Aide Mémoire de Photographie.*

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THE AUGUST NUMBER of *La Revue de Photographie*, just to hand, is one with which the editor and all concerned in its production have reason to be well satisfied. The illustrations of antique life from photographs by Baron Rodolphe Kanzler exhibit great skill in the composition of the scenes the posing and the lighting, although it is questionable whether such results can ever warrant the care that has to be lavished upon them. The "Coin de Province," by Demachy, is worthy of the author. The number is adorned with several other fine reproductions, while the letter press is equally good.

PYRO STAINS ON THE HANDS. I was in the dark room of a local commercial photographer one day last week. He had just finished his developing for the afternoon. He reached down a pint beer bottle from the shelf and gave his hands a rub with about a spoonful of the contents. Another bottle, another rub; then a wash under the tap and all signs of pyro stains were gone. Enquiring, I found that the first bottle contained water in which had been dissolved about a spoonful of chloride of lime, while the second contained a like amount of water into which had been added a spoonful of hydrochloric acid. It seems a most simple means of keeping the hands clear of unpleasant pyro stains.—*Camera Craft.*

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AN ANTI-HALATION BACKING which dries very quickly is given by M. Garbe in the *Photo Revue* as follows: Water, 7 drams; alcohol, 3 drams; sal ammoniac, 36 grains; dextrin, 10 drams; lampblack, 72 grains; thymol, 1 grain. Being black it may be used for orthochromatic plates.

THE CRITERION LANTERN SLIDE CLUB has vacancies for a few members. Particulars may be had from the secretary, Mr. T. G. Cooling, 17, Upper Cheyne Row, Chelsea, London, S.W.

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SIX MONTHS' COURSES of lessons in practical photography are given at the Goldsmiths' Institute, New Cross, London, S.E. The teacher is Mr. W. T. Wilkinson, well known in photo-mechanical work and to photographers generally. The Institute Buildings will be open to the public for inspection from the 15th to the 17th instant inclusive. Full particulars as to the courses and fees can be had from the secretary, Mr. J. S. Redmayne, B.A.

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WE REGRET TO NOTE the death of Mr. W. D. Richmond, the author of "The Grammar of Lithography," "Colour and Colour Printing as applied to Lithography," etc., which took place quite suddenly on the 7th August at Churchdown, Gloucestershire. The deceased, who had not relinquished active business quite two years, was in his seventy-second year, and maintained right up to the last his interest in the subject he had made his own.

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MESSRS. LUMIERE AND SEYEWETZ, in christening their new compound salt of metol and hydroquinone "Metoquinone," as announced in our last issue, would appear to have chosen the name under which the Vanguard Co. has sold a ready-made developer for some years.

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KODAK, LTD., v. LIZARS. We have received from the plaintiffs in this action a copy of the judgment obtained by them in the Scotch Courts. It declares that the defendants are not entitled to sell, or offer for sale, photographic appliances under the trade names of "Bullseye" or "Brownie" which are not manufactured by Kodak, Ltd., and they are ordered to pay the sum of £40 and costs.

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"HOLIDAYS IN DENMARK AND SCANDINAVIA" is the title of an illustrated pamphlet issued by the Great Eastern Railway. In the thirty odd pages a mass of useful information is given to the intending tourist. It may be obtained from the Continental traffic manager to the railway company at Liverpool Street Station, or from the publishing department at 30, Fleet Street.

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A COMBINED TONING AND FIXING BATH which gives good *red* tones is made as follows: Dissolve three drachms of sodium tungstate, five of ammonium sulphocyanide, and six ounces of hypo in a pint of whey, and a tube of gold (fifteen grains) in one and a half ounces of water. When all is dissolved, add the gold solution to the other, well shaking it. If toning be too rapid, simply add more water.

HERR JAN SZCZEPANIK, of whose photographic process in connection with jacquard weaving so much has been heard during the last few years, has reproduced in silk an allegorical representation of the Emperor Francis Joseph, which has been accepted by his Majesty. The design, it is said, would have occupied a designer ten years under the existing system, but was cut by the new process in six hours. The patent rights have been secured by an English syndicate for England and the colonies.

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THE "MORAL POCKET HANDKERCHIEFS for the little niggers" that Sam Weller expatiated upon were harmless creations compared with the moral postcards illustrating the evils of drunkenness produced by M. Capmartin, of Blaye. The author of the scheme suggested that they might be posted to confirmed drunkards, and now the recipients are starting slander actions, and one of the slandered individuals is being proceeded against, the *Daily Express* tells us, for violently assaulting the sender.

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THE HAMILTON PHOTOGRAPHIC SOCIETY visited Strathaven on the 22nd ult., and had an interesting day amongst the memorials of the Covenanters. They were in the centre of such places of interest as Loudon Hill, Drumclog battle field, Auchingilloch Moor, and Avondale Castle, now a picturesque ruin. The party circled round Sandford, back to Strathaven, and by rail home to Hamilton.—ORGETORIX.

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THE PATHE CINEMATOGRAPH COMPANY, LTD., was registered on August 18th with a capital of £10,000 in £1 shares. The object is to manufacture, let on hire, and deal in kinematographs and similar instruments. There is no initial public issue, and the registered office is at 9 and 10, Pancras Lane, E.C.

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LONDON AND PROVINCIAL PHOTOGRAPHIC ASSOCIATION. MEETING, held August 28th, Mr. A. Mackie in the chair. Mr. Welford announced that the committee had given effect to his resignation by the appointment of Mr. Kindon, Burnside, Church Road, Shortlands, as honorary secretary.

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TRAVELLERS ON THE GREAT CENTRAL RAILWAY will appreciate the A.B.C. time table to be obtained free at any of the company's offices or agencies. The train service and fares can be seen at a glance.

× × × ×

OUR EXHIBITION ISSUES. We would particularly draw the attention of those of our readers who are exhibitors, or are interested in the exhibitions, to the two special and fully-illustrated reviews thereof, which will be contained in the special exhibition issues of *Photography*, dated September 26th and October 3rd respectively.

FORTHCOMING EXHIBITIONS

SOCIETY.	OPENS.	ENTRIES CLOSE.	SECRETARY.
Hartlepool	September 9 ...	August 24	G. Scott, 30, Cobden Street, West Hartlepool.
Cambridge P.C. ...	September 16 ...	September 4 ...	T. J. Sowden, Sunny Side, Guest Road, Cambridge.
Salon (The Linked Ring) ..	September 18	September 7	R. W. Craigie, Egyptian Hall, Piccadilly, London, W.
Royal	September 24 ...	September 7 ...	A. W. W. Bartlett, 66, Russell Square, London, W.C.
Watford C.C.	October 7	September 23 ..	F. Roberts, Winslade, Cassio Road, Watford.
San Francisco Salon ...	October 8	September 15	Committee, 819, Market Street, San Francisco.
Rotherham P.S.	October 14	October 5 .	H. C. Hemmingway, Tooker Road, Rotherham.
Coatbridge P.S.	October 17	September 28 ...	The Secretary, Ailsa Cottage, Coatbridge, N.B.
Isle of Wight P S.	October 21	October 13	J. H. Burgess, 53, Pyle Street, Newport, Isle of Wight.
Belfast Y.M.C.A.	October 28	October 14	D. J. Hogg, 3, Trinity Street, Belfast.
Frome M.I.	November 5 ...	October 24	Bernard J. Mitchell, 3, Willow Vale, Frome, Somerset.
Hackney P.S.	November 11 ...	October 26	Walter Selfe, 70, Paragon Road, Hackney, N.E.
Sheffield P.S	November 17 ...	November 3 ..	J. W Charlesworth, 1, Joshua Road, Sheffield.
Sunderland P.S.	November 18 ...	November 2 ...	W. E. Kieffer, 1, Stirling Street, Sunderland.
Southsea P.S.	November 18 ...		F. J. Mortimer, Pembroke Road, Portsmouth.
Edinburgh P.S.	November 21 ...	November 7 ...	J. S. McCulloch, W.S., 3a, North David Street, Edinburgh.
Hove P.S.	December 2 ..	November 23 ...	A. R. Sargeant, 55, The Drive, Hove.
Southampton P.S	December 11 ...	December 2	S. G. Kimber, Oakdene, Highfields, Southampton.
Chicago S A P	December 29 ...	December 15 ...	Society of Amateur Photographers, The Art Institute, Chicago.
South London P.S.	March 5	February 20 .	W. C. Marshall, 41, Glendon Road, Lee, S.E.

Monday, October 7th, is the receiving day for both Royal and Salon.

* * * *

The special exhibition issues of *Photography* will be dated September 26th and October 3rd.

* * * *

Mr. and Mrs. Cadby are sending in to the Salon only. Mrs. Cadby's work has been hindered considerably by the unfavourable weather, and her exhibits will in consequence be mostly of spring flowers. Mr. Cadby tells us that he has three portraits, in which he is using thin positives backed up by paper, believing that the results are of better quality than would be the case with prints on paper.

* * * *

Mr. J. Craig Annan's energies have been largely absorbed this year in special work, including the erection of new premises, and it is still doubtful whether any of his work will be on exhibition. He has, however, some portraits in hand, and it is just possible that some rival to his previous successes may be on view.

* * * *

We regret to hear that from various reasons Mr. Karl Greger will be unable to exhibit this year.

* * * *

Mr. William Crooke is sending one picture to the Salon and two to the R.P.S. Exhibition.

* * * *

Mr. Ernest Marriage has been working hard this year, and hopes to exhibit at both of the exhibitions. To the Salon he intends to submit two views near Dedham, and to the R.P.S. a view in Heber's Ghyll (an enlargement), and possibly an architectural bit from Chartres Cathedral. He is also submitting to the technical section a frame of comparative telephotographs showing details in Rheims Cathedral.

* * * *

Mr. E. W. Burch has been successful in obtaining a number of subjects, which he intends to offer for the consideration of the selection committees of both exhibitions. One of these is a harvest scene, while horses going to and returning from the fields furnish themes for "Off to Work" and "Home from the Plough." In addition to these he has one or two bromide enlargements about 12in. by 7½in. dealing with cottage interiors.

* * * *

Dr. Boon has had a very busy year, and has been able to give very little time to photography, but he nevertheless has some half-dozen Venetian and pastoral pictures which will probably be submitted to the selection committee of the Salon. Figure work which Dr. Boon began a year ago, is still embryonic only, and will have to be held over for another year.

* * * *

Mr. C. Yarnall Abbott has been engaged in making a series of photographic illustrations for a new edition of John Ruther Laig's "Madame Butterfly," which the Century Co., of New York, is bringing out in October, and some of the prints will be sent to the Photographic Salon. Considerable interest attaches to these illustrations, as the use of pictorial photography as applied to book illustration is a new departure with the Century Co. Those who remember Mr. Abbott's "Illustration for Trelawney," with its suppressions and suggestions, which we published two years ago, will scan the Salon walls for his latest work in the same direction.

Mr. Frederick H. Evans, who takes quite an unnecessarily pessimistic view of the financial stability of the Salon, will send, to that exhibition only this year, architectural and portrait subjects, together with two or three figure studies. In all his pictures he has adopted the principle of "plain prints from plain negatives." No local treatment has been applied either to the negatives or to the prints, which are in platinotype. Mr. Evans's work is so strong that we have but little doubt that it will triumph over his self-imposed conditions, which might ruin the reputation of men of less ability.

* * * *

Experimental work in gum-bichromate printing, which is likely to result in making the process easier in manipulation, has occupied much of Mr. J. Cruwys Richards's time during the twelve months. He has in progress, however, one or two prints in combined gum which we may hope to see at the Salon.

Two New Books.

"STEREOSCOPIC PHENOMENA OF LIGHT AND SIGHT," by Theodore Brown, published by the Gutenberg Press, 123-5, Fleet Street, deals with the subject of stereoscopic vision in an exhaustive manner. In the first part, the principles involved are discussed in a thorough and convincing style that should prove of the greatest service, not only to those to whom the subject is new, but to many who have long practised stereoscopic work. Various types of cameras are described, and their merits and demerits laid bare. The ingenious instruments devised by Mr. Brown are well known to the majority of our readers, who will be prepared to accept the dicta on construction that he lays down. Part two is devoted to the no less important subject of the viewing instruments, the earliest as also the latest types being brought under review. The third part deals with binocular phenomena, and certain instruments which are less familiar to the average worker than the ordinary stereoscope, but none the less interesting. The book is one that we can heartily recommend to all who are interested in the theory or practice stereoscopic work.

* * *

AN EXCELLENT BOOK ON CHEMISTRY for photographers has just emanated from Wilhelm Knapp's publishing office at Halle, which forms No. 46 of the "Encyklopädie der Photographie," and is written by Dr. Stolze. It is entitled "Chemie für Photographen." The elements are discussed in their families, together with their compounds, those employed in photographic work being enlarged upon. But we are pleased to notice that *every* element is discussed, and thus a sound general knowledge of inorganic chemistry is imparted to the reader, who thus does not think he is conversant with the subject when in reality he knows little beyond the reactions which are employed in photography only. A chapter or two on the organic chemistry directly connected with the subject come finally, and these treat chiefly of alcohols, fatty acids, and aniline dyes. A very useful and concise list of dyes and their sensitising actions as regards the spectrum on dry plate emulsions is included, and altogether the whole book can be confidentally recommended to the German reader who is really keen on the chemistry of photography generally. "Ozotype," by Baron Hübl, is another of the series, also just to hand. This treats of the subject in a general way, but, needless to say, in Hübl's usual competent manner.

"The Magic Carpet" Lantern Slide Competition.

"THE Magic Carpet," by E. R. Dibdin, President of the Liverpool Amateur Photographic Association, is written "to provide," as he says in the preface, "a verbal string upon which to thread a collection of otherwise unrelated photographs, and also to offer fellow members of the Liverpool Amateur Photographic Association an object lesson in the art of lecture making, as a small return for all they had taught me in regard to photography." From both points of view the lecture seems to us eminently successful. Mr. Dibdin has the gift of suggesting in a few happily chosen words scenes of very varied character, and that without entering into details that would make the sentence descriptive of any one locality. The references to upland hills, moorland fells, streams, rivers, and the sleepy towns built upon their banks, might be illustrated equally well by photographs taken in any of the three kingdoms.

As a model of what such a lecture should be it is equally good. We are all tired of the Murray's Guide style of lecture, with the height of each spire accurately chronicled in feet and inches. Although not written to be read apart from photographic illustrations, it reads remarkably well, recalling in places Kingsley's ever-popular "Water Babies."

The Liverpool A.P. Association has organised a competition for lantern slides in connection with it. In this competition there are two classes, one restricted to members of the association and the other open to all amateur photographers. In the latter class a silver cup is offered, and an entrance fee of 2s. 6d. is charged. Copies of Mr. Dibdin's lecture may be had from the publishers, Henry Young and Sons, South Castle Street, Liverpool, post free, sevenpence, or from the honorary secretary, Mr. E. Simnett, Percy Buildings, Eberle Street, Liverpool, from whom entry forms and full particulars may also be obtained.

Correspondence

For the free discussion of all matters of general interest to Photographers

The Editor is not responsible for the opinions of his correspondents.

THE SALON AND THE R.P.S. LOAN COLLECTION.

Sir,—It is difficult to imagine that Mr. F. H. Evans's letter was written seriously; the proposition with which it commences is so utterly ridiculous and preposterous. It is this: The Royal Photographic Society, wishing to add to this year's exhibition an *invitation* section of pictorial work, and having selected the workers whose pictures were considered desirable, has, according to Mr. Evans, committed an unpardonable act of presumption in writing to some of these men asking the loan of certain selected pictures, simply because they happened to be members of that mysterious brotherhood known as the Linked Ring! The only correct course, says Mr. Evans, for the R.P.S to have adopted would have been to write to the "official chief" of the Linked Ring "inviting *our* co-operation in their proposed loan collection." It was "invidious, disrespectful," etc., to write individually to those members whose work was desired.

What does this amount to? Simply this: The R.P.S. must not organise an exhibition of representative pictorial work without the august approval of the Linked Ring, otherwise the latter will endeavour by all means to wreck it. Assuming that this absurd proposition had been adopted, what would have been the result? The "co-operation" of the Linked Ring would have been, in other words, dominating the exhibition, and arranging it for the advertisement of their own members and to consist almost exclusively of their work; and, failing the acceptance of such "co-operation," they would have adopted their present attitude, which is another form of the childish "we won't play."

The Linked Ring has never been noted for modesty in asserting its claim to the exclusive possession of pictorial quality in photographic work and in placing itself above ordinary criticism, but for amazing impudence based on overwhelming vanity it would be difficult to rival its present attitude. If Mr. Evans's letter correctly describes it, the R.P.S. has no right to organise a representative pictorial collection without the official approval of the Linked Ring, and if it should so far forget itself, the collection is doomed to failure. Most of your readers, I think, will agree with Mr. Wastell that the quality of the exhibition will not suffer by the abstention of the Linked Ring, but merely the number of the works exhibited.

In future, sir, if you wish to reproduce in *Photography* any work produced by a member of the Linked Ring, you must on no account presume to write to that member direct; he is no ordinary photographer. You must write only through the members' official chief, otherwise they will all "strike," they will boycott your paper, and it will consequently cease to exist.

Surely, sir, Mr. Evans is not serious. It is only necessary to read his letter to see the utter absurdity of the whole argument, and some sentences seem to suggest that he is writing sarcastically. He says, for example, "We are a small body of earnest art students; *we pay our own expenses*." Unfortunately, most of us who photograph find that we have to do the same.

In regard to their exhibition, he tells us that they always cordially invite outsiders to send work in, but he omits to add that only about *one per cent.* of the work sent in response to this invitation ever finds its way into the exhibition, judging from the figures published each year.

Seriously and earnestly, I wish to offer a suggestion. If those who really desire improvement in the R.P.S. would give their active and loyal co-operation and practical assistance instead of for ever sneering at its work and efforts, it would be a better indication that their criticisms were inspired by a sincere desire to see the society advance, and it would make the society infinitely stronger, and materially increase the scope of its work and influence. If they will not give their assistance, they should at least cease their pointless and ill-natured fault finding.

Yours, etc.,
HENRY W. BENNETT.

Sir,—While maintaining my previously expressed opinion that the reasons which actuate members of the Linked Ring in boycotting the R.P.S. Loan Section are of parochial rather than public interest, yet, since to pass by Mr. Evans's disclaimer of narrow-mindedness unchallenged might be construed into a tacit acknowledgment of its validity, I venture to encroach once more upon your valuable space.

If I read Mr. Evans aright, he defends his personal refusal, somewhat in a spirit of indignation, and on the following grounds:

(1.) The official chief of the Royal Photographic Society, Sir William Abney, sent, at the desire of the Council, letters to various prominent pictorial photographers, inviting them to support the loan collection. Among those invited were some of, but not all of, the members of the Linked Ring.

This Mr. Evans characterises as invidious, tactless, disrespectful, and lacking in dignity.

What Sir William Abney should have done was to have communicated with Mr. R. W. Craigie, official chief of the Salonites (*sic*), "a small body of earnest art students," suggesting or inviting their co-operation.

(2.) The Council of the R.P.S. determined to hold their Jubilee Exhibition at the New Gallery in the autumn, leaving the selection of exhibits to those invited to contribute.

What the Council should have done was to have held the exhibition in the spring, and to have made it purely retrospective.

(3.) A collection of the best work of the past ten years would overwhelm the 1903 Salon, and ruin its commercial as well as its art side.

It is only fair to add that this latter statement is not advanced as Mr. Evans's personal opinion.

Three fallacies are inherent in the points of this defence.

The first is the fictitious importance attached to the members of the Linked Ring themselves, individually and collectively.

In declaring that no collection of photographs can be representative of pictorial photography without their support, Mr. Evans follows the lead of Mr. Horsley Hinton. The contention would carry more weight if it came from an outsider.

The second fallacy lies in the assumption that a pictorial photographer's latest work is of necessity representative of his work in general. It may or it may not be. If it were invariably so, one could allow the validity of Mr. Evans's argument that, to avoid damaging the Salon, the loan collection should have been confined to work previously exhibited.

Both Mr. Hinton and Mr. Evans ignore the paragraph in Sir William Abney's letter which expressly states that previously exhibited work will be welcomed.

The *naïveté* of the suggestion (also advanced by Mr. Hinton), that the R.P.S. should have altered the date of their annual exhibition in order to avoid friction with the Salon, almost disarms criticism.

Eleven years ago the Linked Ring selected the autumn as a suitable season for their exhibition, with the deliberate intention of running it contemporary with and in opposition to the old-established autumn exhibition of the Royal.

Fallacy number three, however, lies in the thoughtless assumption that R.P.S. could, had they been so minded, have held an exhibition, illustrative of fifty years' progress in photography, at the time of their jubilee celebrations in May. Can Mr. Evans or Mr. Hinton suggest a gallery of sufficient scope for such an exhibition, which could have been obtained in the height of the season?

In boycotting the loan collection, the members of the Linked Ring have, as a coporate body, done as much as lies in their power to wreck its success. They have done more. They have so far abjured their avowed object of encouraging purely artistic photography as to neglect an unique opportunity of extending their influence outside their immediate supporters.

This, we are told by Mr. Hinton, is in some cases self-denial, and we are asked, both by Mr. Hinton and Mr. Evans, to believe that there is no spirit of antagonism to the R.P.S. evinced in the proceedings!

Yours, etc.,

DOUGLAS ENGLISH.

PROTECTION FOR PHOTOGRAPHIC MANUFACTURERS

Sir, I cannot think that Mr. W. H. Fielden has gone down much deeper into the question under discussion than I have, since I plainly stated in a previous letter that neither free trade nor protection was the governing factor in trade prosperity, but cost of production. His remarks are merely an illustration of the fact that owing to a variety of causes the British manufacturer is beaten by foreign rivals in the home market. The proposed remedy for this state of affairs is a protective tariff; in other words, the British manufacturer is to be placed above the fear of foreign competition and the effects of a lower cost of production, and he is to be protected against the consequences of his own incapacity. That this is the meaning of protection is obvious by comparing the plate-making and lens-making industries in this country. A protective tariff would scarcely affect the plate makers, since they control the home market and stand in no need of protection.

A tariff on lenses imported from abroad, on the other hand, would cause great changes both in the supply and demand of lenses. In the case of dry plates, a protective tariff would not alter the supply and demand, since the cost of production has been brought down to a minimum. With lenses the cost of production has not been so brought down, and therefore all those applications of photography which have been built up on cheap, foreign lenses would have to be abandoned, unless British lens makers could lower their cost of production. The prosperity of trade is thus independent of free trade and protection: if not, it needs explanation why plate-makers and lens makers occupy such different positions in relation to foreign competition.

The above defines my position also towards the criticisms of Mr. Arthur Crowe in your last issue. I am no believer either in free trade or in protection as a panacea for trade depression. If a nation is deficient in grit, enterprise, and commercial ability, it cannot be made prosperous by a tariff system.

With respect to metallic platinum, I cannot draw any distinction between this and British-made cameras. Both are manufactured articles, one of which we produce easily, and the other in comparison with difficulty, or not at all. In relation to the purchaser, they occupy the same position, the price being regulated by their cost of production. Platinum would go up in price by the amount of a duty, and so would a camera which British manufacturers did not make. Yours, etc.,

JOHN A. RANDALL.

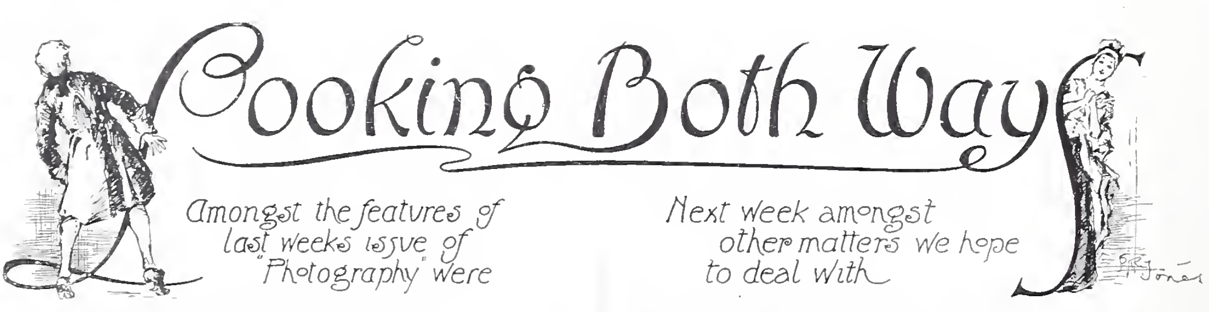
The following specifications of patents relating to photography have been published, and copies may be purchased at an uniform price of 8d., at the Patent Office, Sale Branch, 25, Southampton Buildings, London, W.C. The price of the specifications includes postage to any part of the United Kingdom. The additional postage to foreign countries is usually ½d. per specification. Postage stamps must not be sent on payment of any amount exceeding 11d. In ordering the name of the patentee and both the number and year of the patent must be given.

1902.

18,287.—Millard. Cameras.
20,069.—Cobenzl. Photo-sensitive emulsions.
22,093.—Halden. Drying prints.

1903

942.—Boyce. Holder for plates during development and fixation.
10,115.—Brown. Development apparatus.
10,135.—Moore. Photographic picture frames.


Looking Both Ways
Amongst the features of last weeks issue of "Photography" were
Next week amongst other matters we hope to deal with

"The Newest Developer—Metoquinone."

"A Camera at the Pyramids." Written and illustrated by G. E. Thompson.

"Combined Toning and Fixing Baths containing Lead." By Prof. Namias.

"The Boy with the Brownie." By Cunctator.

"How to use Velox Paper that has become 'Spoiled' through Age."

"Chillingham and its Wild Cattle." By S. Fairclough.

"Tinting Transfer Paper for Carbon Work."

"A Military Expedition in Morocco." The concluding article of the fully-illustrated series by Mr. John H. Avery.

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NOTICE TO CORRESPONDENTS.

All letters, advertisements, etc., must reach the office on Friday morning to ensure being dealt with in the issue for the next week. In cases of great urgency, letters delivered up to the first post on Tuesday morning may be in time to receive attention, but this cannot be guaranteed.

Communications for the Editor should be addressed, The Editor of *Photography*, 3, St. Bride Street, London, E.C.

In all publishing matters, letters, orders, etc., should be addressed, Iliffe & Sons Limited, 3, St. Bride Street, London, E.C.

LEADER

The Passing of the Picturesque.

The two illustrations which we give on pages 198 and 199 this week will be news, and, we doubt not, unpleasant news, to many of our readers, to whom the picturesque timbered bridge that spanned the Stour at Dedham appealed both by its inherent beauty and by its association with one of England's greatest painters, and the most markedly English of them all. Our contributor Mr. Gough, whose article appears in the same issue, waxes wroth over the Vandalism that could destroy the old bridge to replace it with the hideous girders that are to be seen in Mr. Lloyd's view; but, after all, this is only a type of what is going on all over the country, and in many places, we regret to say, going on at a greater rate than it is in Constable land.

If we take any district whatever, and go over the ground with a guide book of ten or fifteen years ago, we shall find out or have brought more strongly under our notice than ever before how the ancient landmarks are disappearing—how the picturesque buildings of our forefathers are being supplanted by the most hideous forms of modern architecture. As in the case we give this week, even the fine old willow tree that made so conspicuous a feature in the composition has had to go, having been pollarded out of all recognition, if not removed entirely.

It is the clear duty of the more cultured part of the community, to which such things necessarily appeal, to do its best to check such Vandalism where it can, by suasion when practicable, failing that by endeavouring to arouse the attention of the public, until those who propose to do any such injury to the community shall realise that by so

doing they are earning the contempt of their fellow citizens. So much at least can be done by all.

Photographers, however, can do much more than this. Not only can they, by their work, draw attention to the beauty and charm of the threatened objects—and in this connection it is well to remember that the eye is one of the quickest routes to the mind, and that a picture can make its story read twenty times as often as a mere verbal or oral lesson can be taught—but they can at least prevent the forms and appearances of such objects from passing into complete oblivion.

It is in this direction that the various record and survey societies in different parts of the country are doing such good work, and, we trust, are receiving the support of all photographers in their respective districts. It is only by organised and systematic work of this kind that the record can be made complete and can be ensured against the accidental omission of some important feature. By co-operation in time and labour, the burden on each is lessened, and the actual call upon each member of the survey need only be a very light one.

The misfortune is that the number of record societies and photographic surveys is still only a very small one, and that there are large areas of the country untouched by any special society, and virtually unrecorded. Very often these are just the districts in which change and Vandalism are most rampant, and the need for some such a society is greatest.

We would urge upon the many photographic societies that have not already taken up this work now that they are arranging for the winter session they should set aside one evening at least to the consideration of a systematic photographic record of their district, either by the society as a whole or by the formation of a survey section. It is by no means without its personal advantages to its members as photographers, since it furnishes them with a powerful lever both for local support of the society and for obtaining leave to photograph objects of interest jealously guarded or privately owned, which otherwise might not be granted. We hope, therefore, this winter to see this pressing subject dealt with in many districts where it has hitherto been ignored.

Spirit of the Times

DEVELOPING GREATLY OVER-PRINTED PLATINOTYPES.

We were engaged in making a few platinum prints the other day, and were trying at the same time to do a little work upon the next week's issue of *Photography*. As usual when one attempts what we were told in the nursery was an impossibility—that is, to do two things at once—we did not succeed, and if the paper did not suffer, and we hope it did not, there is no doubt that the prints did. In the fascination of correcting the grammatical and constructional errors of an ambitious contributor, all thought of the printing frames on the windowsill vanished, and when it re-appeared it was only to enable us to note that the prints were uselessly over-exposed. One was developed in a very dilute and cool bath, but it gave a hopelessly muddy print, and the others were going to be thrown away, when the sight of a kettle of boiling water reminded us of the steam development, which was much more to the fore a few years ago than it has been of late. One of the prints was well steamed for a few minutes, but although the image was certainly brought out slightly by the process, the result was not a success. If not steam, why not hot water? was the query. Another print was placed on the bottom of a dry dish, face upwards, and boiling water was poured upon it directly from the spout of the kettle. The result was in every way successful, and the print holds its own with regularly-exposed and regularly-developed ones. Some of the others came out as well, but one or two, although printed far too heavily for development in the usual manner, were still not sufficiently printed out for hot water development, and the results were weak. The paper was the BB brand of the Platinotype Company, and it was plain that it required much over-printing to give a good result. The method is certainly not one to recommend for deliberate and intentional pursuit, but it is well worth trying when the printer by any mischance finds himself the possessor of proofs that are clearly much over-printed, and would otherwise be wasted entirely.

* * *

FACIAL COPYRIGHT.

The question of photographic copyright crops up on the Continent as well as in our own country, and we are glad to see that justice is rendered as effectively and vigorously as it has been in some of the recent English cases. According to *La Photographie Française*, Mlle. Lanthenay, a "lyric artiste," who has for some time played at a certain variety theatre, claimed damages from a firm who had without permission published her photograph in a circular which they had issued. The defendant—a dentist—was found to be in fault, and had to pay a thousand francs damages and twenty-five francs for every circular issued after the date on which the action was decided. We are not told whether the plaintiff was portrayed twice—in agony first of all, and, secondly, in perfect comfort after the attentions of the dentist in question—or whether by means of the circular the ever quizzical public were made aware of the fact that the lyric artiste possessed a set of false teeth. In any case, the action is of interest, as it shows that English people are not the only ones who have an objection to giving away even their looks for nothing.

* * *

"UNBACKED PLATES PREFERRED."

The writer was in the shop of a well-known and very justly-popular dealer the other day, when a customer, and evidently a regular one, came in for some plates for his hand camera. It so happened that there were in stock none of the kind that he wanted, except some that were backed, and although the dealer to oblige his customer actually suggested that he would charge them to him at the price of unbacked (wild horses shall not drag from me that dealer's name), the customer mildly but firmly declined them, and took his custom elsewhere for the time being. Now, here was an extraordinary state of things. It is conceivable that many plates are exposed unbacked because of the cost of backing either in money or in trouble, although goodness only knows it is little enough when the advantages it brings are borne in mind, but here was a man who had all these advantages offered to him at no cost or trouble whatsoever, yet he would not take them, and actually *preferred* to use his plates unbacked. Surely at this time of day the advantages of an efficient backing do not require pointing out. For some purposes, no doubt, there is little benefit to be derived from backing, and the results on an unbacked plate are to all appearances equal to those on a backed one. But even then there is no advantage to be derived from the absence of the backing, while if it has little direct effect under those circumstances upon the actual picture itself it at least tends to give a cleaner negative and to reduce the risk of fogging by the accidental exposure of the back of the plate to light. We expressed our surprise to the dealer, but he did not share it, saying rather pessimistically, "You've only got to be behind the counter for a week or two, and you'll be surprised at nothing."

* * *

THE WORK OF THE ACETYLENE ASSOCIATION.

The report of the Acetylene Association exemplifies the difficulties under which young industries have frequently to be carried on. That reasonable restrictions should be imposed upon the storage and carriage of a substance from which a violently explosive gas is evolved is desirable in the interests of the public. There is, however, always a tendency to panic legislation, and the calcium carbide industry is still suffering from crude and unconsidered regulations laid down at the time when a series of accidents had arisen from the careless or reckless handling of the carbide by ill-informed experimenters. Severe as these regulations are in their restrictions, the manner in which they are applied by the local inspectors makes matters worse. The Acetylene Association is doing good work in calling attention to their unnecessary severity and the evils they are causing to the trade. The task is by no means a light one, for the inevitable tendency is for executive officers to apply a rule with ever-increasing stringency, and to ignore the powers that may have been entrusted to them to afford relief under suitable conditions, and to induce a railway company to reconsider a decision once arrived at, is almost as hopeless as to get an Act of Parliament, once passed, off the statute book. The association has, however, met with a fair measure of success in obtaining permission for its members to store more reasonable quantities of carbide than the local inspectors, in many instances, at first were inclined to allow.

* * *

A HAND CAMERA FOR THREE-COLOUR WORK.

Three-colour photography is steadily making its way to the front as a commercial process of illustration, and there are many photographic amateurs who achieve no small degree of success in the more refined methods with stained films and similar means. One great hindrance to the more extended employment of indirect colour photography lies in the unavoidable prolongation of the exposures brought about by the light filter, especially by that for the red. Even with the highest degree of rapidity which is attained by modern red sensitive plates, the exposure is still of such duration that anything like a shutter exposure is practically out of the question. MM. Prieur and Dubois, therefore, in introducing a hand camera "*Le trichrom-detective*" for use with the three-colour process, would seem to take a sanguine view of the rapidity of panchromatic plates in the near future, or else regard the uses of a "detective camera" as of a very wide character. Their apparatus, which so far we have only been able to judge from printed descriptions, seems well designed, although decidedly complicated, and only capable of being used for three-colour work when on a stand. The plates are carried in sheaths, the sheaths being provided with supplementary grooves so as to carry colour screens just in front of the plates. One automatic movement makes the exposure, changes the plate, and sets the shutter for the next exposure, so that the three images can be secured in very rapid succession. The value of the "trichrom-detective" is perhaps greatest as a portent or sign of the times, significant of the steady and rapid increase of interest in the process to which it is adapted.

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SLOW PLATES FOR CLOUD NEGATIVES.

The last few days have afforded some excellent opportunities for obtaining cloud negatives, and there is every appearance that the favourable weather will last for a little while. In the current issue of *Camera Craft* just to hand, Mr. Lafayette Clute gives some particulars of the use of slow plates for this purpose, which are worth noting. He said that, having some slow plates by him, he departed from his regular practice, and, instead of using fast ones, a small stop, and a quick speed of the shutter, he used the slow ones with a slower shutter and a larger stop; and as a result prefers this latter plan now. "The clouds," he says, "are more cloud-like, due perhaps to their slight motion during exposure, and, the best of all, being on a slow plate, they are much easier developed so as to obtain any desired quality in the negative. Using the fast plates with the attending risk of over or under-exposure, I was not a little at the mercy of my plate and developer, often not feeling quite sure as to the final result until the negative was examined after fixing. With the slow plate, this is changed. We all know a slow plate is more under control than a fast one, and most of us have an idea that it contains more silver, or for some other reason is capable of building up a better image." Be that as it may, he says in conclusion, he will continue to use slow plates in future when he finds himself wanting cloud negatives.

* * *

PURE SILVER NITRATE.

Since silver nitrate is now seldom used in intensification by the average photographer, not a great number keep it in their dark rooms. But to some, however, it is still a chemical in everyday use. The *Photo-Revue*, in describing how to test it for purity and also adulteration, says that it may contain potassium nitrate, and also the nitrates of lead and zinc. One can recognise the potassium salt by making a solution, precipitating with hydrochloric acid, and filtering. If on evaporating the filtrate, any crystals are left, these will show the presence of potassium nitrate; and to make the test conclusive, the crystals may be placed on a wire loop in a spirit or Bunsen flame, when they will colour it violet. If the white precipitate caused by hydrochloric acid be treated with ammonia, the silver chloride will dissolve; hence, if any remain on repeated additions of ammonia, a lead salt is evidenced as an impurity present. If some of the crystals, formed as first mentioned, be treated with a solution of ammonium carbonate, and a white precipitate soluble in excess appears, then zinc nitrate will also be present as an impurity. These tests will be found useful for examining silver nitrate should there appear to be anything wrong with the sample in use, although the simplest way to ensure the purity of one's chemicals is to purchase them from a reliable firm whose interest it is to sell the best quality, and whose chemists are constantly taking steps to secure that result.

THE WEEK'S MEETINGS.

THURSDAY, SEPTEMBER 3RD.

Hull. General Meeting.
Woolwich. Excursion to Ongar.

SATURDAY, SEPTEMBER 5TH.

EXCURSIONS.

Boro. Poly. St. Paul's Cray
Hackney. Bostal Heath.
Glasgow P.A. Old Kilpatrick
Southampton. Netley Abbey.
Bristol. Leigh Woods.
Glasgow Southern. Sail, Firth of Clyde.
Paisley. Glasgow Harbour.
Cricklewood. Hampstead Heath.
Ilford. Ilford Survey (Record Work).

MONDAY, SEPTEMBER 7TH.

Ilford. Ten Minutes' Lecturettes. By Members.
Bradford. Shipley Glen.
Walthamstow. Ordinary Meeting.
Dewsbury. Melby.
South London. The Rambles of a Green Hand in a Green Land; or Three Months' Hard Labour in Search of Rest. W. Tylar.

TUESDAY, SEPTEMBER 8TH.

Rotherham. Negatives and Prints: Their Modification and Improvement. Sparham Camp.
Nelson. Lantern Lecture. C. F. Dawson.
Blackburn. Annual General Meeting.

TUESDAY, SEPTEMBER 8TH (continued).

Hackney. Excursion Prints Due.
Manchester. Open Lantern Meeting.

WEDNESDAY, SEPTEMBER 9TH.

North Middlesex. Lecture. F. C. Tilney.
Everton. Single Transfer Carbon. W. Tansley.
Isle of Wight. Lantern Night.
Newton Heath. Bardsley Prints.

FRIDAY, SEPTEMBER 11TH.

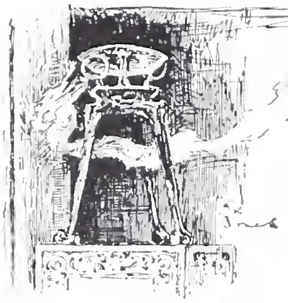
East Liverpool. The Photographic Lens.

SATURDAY, SEPTEMBER 12TH.

EXCURSIONS.

North Middlesex. Monkwood.
Croydon Nat. Fungus Foray, Addington.
Hull. Newbald and Houghton Woods.
Halifax Norwood Green *via* Shelf.
Bradford. Adel.
Walthamstow. Loughton.
Dewsbury. Adel.
Glasgow Corporation Cadder (Bishopbriggs).
Catford and Forest Hill. Drapers' and Vintners' Co.
West London. Thames.
Woolwich. Survey, Charlton for Hanging Wood, Maryon Park and District.
Everton. Half-day Outing.
Paisley. Linwood Moss.
Newton Heath. Bramhall.
South London. Whipp's Cross.

Societies will have their meetings announced here if the syllabus is sent to us at the beginning of the Session, or from time to time.



CHEMICAL & PHYSICAL NEWS

A weekly summary of those sciences upon which all photographic processes are based

Specially compiled for Photography by Prof Fergus J McInnes

SOLID PETROLEUM.

THE utility of petroleum as a fuel and as an economical source of heat and energy would be vastly greater if it could be transformed from the liquid to the solid condition. Many attempts have been made to accomplish this, and there is little doubt that to the successful discoverer of such a result a rich financial reward is certain to follow. Twenty years ago, or thereabouts, it was stated in the press that a method of solidifying paraffin oil had been discovered, the method employed being by the addition of a decoction of a certain bark obtained from bushes or trees in Central Africa. Nothing further was heard of it, however, and the subject was forgotten. According to the *Petroleum Review*, Messrs. Helling and Passmore have recently discovered a method by which as much as ninety to ninety-five per cent. of petroleum of any kind or quality is transformed into a solid mass. This mass is stated to have a much higher flash point than ordinary petroleum, and when lighted burns with a quiet and uniform flame, does not melt and run, and is consumed practically to the last atom, only a very minute trace of ash being left.

SEEING THE MOLECULE.

THE *Annelen der Physik* has a communication from H. Sudendopf and R. Szegmondy, whose names are associated with the highest power microscopical research, upon a method of enabling ultra-microscopical (that is, smaller than microscopical) objects to be seen. They draw attention to the fact that provided the images produced need not be conformous to the original, it is possible to render particles of molecular dimensions visible to the human eye. The condition to be satisfied is, that the product of the specific intensity by the surfaces of the luminous particles and the square of the sines of the effective luminous angle, should be superior to the inferior limit of the sensitiveness of the eye. The particles to be seen are made luminous by means of artificial illumination, such that the axis of the illuminating cone is at right angles to the diffraction cone of the particles. The process is somewhat analagous to the phenomena shown when dust particles in a closed room are illuminated by the solar rays admitted through a small aperture.

FERRIC OXALATE.

THE greatest obstacle in the path of the photographer who desires to practice this beautiful process is, perhaps, the necessity of making his own ferric oxalate solution. To the chemist with his laboratory facilities ready to hand, and his familiarity with chemical manipulation generally, this is a very simple operation. But the ordinary unskilled amateur is either deterred altogether from attempting it or he is tempted to go to his chemist or dealer for a supply of the commercial article. The result is in nearly every instance the same, a tale of complete failure and discouragement. A little consideration will explain this state of things and at the same time show a remedy. Ferric oxalate is a very unstable salt, easily giving up a portion of its C_2O_4 in the form of carbon dioxide CO_2, and is thus converted into the reducing product ferrous oxalate. It cannot be obtained commercially in its pure state as ferric oxalate, but is invariably contaminated with more or less ferrous salt. And this not from any carelessness or indifference on the part of the manufacturer, but because the necessary process of evaporation to dryness is sufficient to produce the fault. Even if that were overcome, ferric oxalate in the dry state is an organic salt containing within itself the necessary elements of instability, as exposure to moisture, air, or light results in its giving off carbonic acid and forming a ferrous salt. Thus any attempt at its use results in the decomposition of the solution and precipitation of the platinum. There are several methods by which the trouble may be remedied, and they all of them depend upon the fact that ferrous oxalate readily absorbs oxygen from other sources, and is thus oxidised into the ferric condition, and, in the presence of a small quantity of oxalic acid or a soluble oxalate, ferric oxalate is formed. The method usually recommended is to add a small quantity of potassium chlorate. In the case under consideration, however, where the quantity of ferrous salt is frequently large, this method is not advisable. The potassium chlorate is reduced to potassium chloride and the platinum is often precipitated as the insoluble yellow potassium chloroplatinate. Sodium chlorate, however, does not cause any such precipitation, and may be used for the purpose with safety. In case it should be desired to employ the commercial ferric salt, a test should always be made first to ascertain its condition. Dissolve a few grains in an ounce of water, keeping it in the dark room, and add a few drops of a ten per cent. solution of potassium ferricyanide. A dense precipitate of a deep blue colour indicates the presence of the ferrous salt, and will give a rough idea of the amount. The solution may then be made and the necessary sodium chlorate added. Nitric acid will also oxidise the ferrous salt into the ferric, and may be employed instead of the chlorate. But the best method is to make up the stock solution with dilute hydrogen peroxide. The quantity is easily ascertained, and varies with the amount of impurity present, but a good formula is to dissolve one ounce of ferric oxalate in four and a half ounces of water, add thirty grains of oxalic acid, and then half an ounce of the ordinary ten volume solution of hydrogen peroxide. A test taken in an hour or two will probably remain quite clear and show no trace of blue precipitate. If it should do so, however, add more of the peroxide. An excess does no harm, as the dissolved oxygen soon escapes on exposure to the air. The advantage of the method is that no complications result from any by products formed, as when the chlorates are used.

THEORY OF RADIATION.

FEW discoveries ever made such a profound impression upon the scientific mind, or so excited the imagination, as the phenomena attending the new element radium. Another hypothesis was advanced at a recent meeting of the French Academy of Sciences by M. Fillipo Ra, who pointed out that it would be impossible to account for the complex phenomena connected with the radio-activity without presuming that atoms themselves are made up of corpuscles of the same or different kinds. He suggests the hypothesis that these corpuscles once upon a time were free, constituting a thin nebula, or cosmic mist, similar to what may be observed in such numbers in the sidereal heavens by means of the telescope. This substance would unite owing to condensation and form nuclei, producing infinitely small suns, which again by further condensation and contraction would take definite shape and stable forms, being the atoms of the elements known to us, comparable to extinguished suns. The larger and not yet extinguished suns would be the radio-active bodies known to us. He claims that this hypothesis would explain: (1) Why radio-active bodies have such high atomic weight; and (2) the reason why they give off energy, this being due to the contraction of the atoms. Many analogies might be pointed out between their behaviour and that of the sun, as, for instance, the luminous, calorific, and actinic rays they give off, and the discharge of electrified bodies. As to excited radio-activity, observation goes to show that rain and snow, when freshly fallen, are radio-active, and suggests that this is due to the action of solar light.

QUESTIONS AND REPLIES

Readers wishing for information upon any specific point in connection with photographic theory or practice are invited to make use of the "query form," which will be found amongst the advertisements. All enquiries must comply with the conditions stated upon the query form; those which do not do so are neither acknowledged nor answered. All enquiries are answered by post. We cannot undertake to make replies in the paper. We print below from time to time a selection from the queries we receive, and our replies.

KEEPING POWER OF A DEVELOPER.

How long will a stock solution of a developer keep in good condition? It is very troublesome to have to mix it up every now and again. If a large quantity could be made up at one time it would be much more convenient.

Developers vary very much in that particular, and the preservative used affects the keeping power greatly. A solution containing ten per cent. each of pyro and potassium meta-bisulphite will keep in good condition for many months if stored in a bottle completely full and well corked. Dr. Baekeland, some years ago, made up a solution of quinol-metol with sodium sulphite and sodium carbonate; this was divided between a number of small bottles, which were filled right up and sealed with melted paraffin. When one of the bottles was opened two years afterwards the developer was found to be in good condition. We should place the preservatives in order of their efficiency as follows: Potassium meta-bisulphite, acetone sulphite, and sodium sulphite. Taking them in the same order the quantities required would be for each ounce of working developer two grains, four grains, and twenty grains. In practice we should prefer rather to use the developers as fresh as possible than to try how long we could keep them.

HOME-MADE LENS ADAPTERS.

What is the best form of lens adapter? I generally carry three or four lenses of different foci, which cannot be screwed into each other's flanges. I do not wish to buy an expensive adapter, and separate lens panels take up a lot of room.

The simplest form of adapter that we have seen was a ring of ebonite, about one-sixteenth of an inch thick. This was let in flush with the front of the lens panel, and was secured with two catches and a turnbutton. An opening in the lens panel was bored, leaving a rebate of about a quarter of an inch, and this was lined with velvet. An opening was bored in the ebonite plate large enough to allow the end of the mount which screwed into the flange to pass through easily, and the flange being screwed home on the other side secured the lens in its place. As several of the mounts were nearly the same size the one ring accommodated them all. Even if more than one ring has to be carried they take up but little space. There is, of course, no reason why small panels to fit into the lens front should not be made either square or round as may be most convenient, and a separate flange screwed to each.

COPYING A FADED PHOTOGRAPH.

Will you furnish me with a little information as to the best way of copying an old faded photograph? I have a whole-plate camera with Clement and Gilmer's lens, stops f/8 to f/64, and the length of the camera when open is twenty-two and a half inches.

To copy full size, the extension of the camera must be equal to twice the focus of the lens, which is not stated. As, however, it is likely to be about ten inches, the extension of the camera will be sufficient. There is no reliable method of renovating the photograph, but copied in the camera under suitable conditions the copies may be much brighter than the original. The photograph should be pinned to an easel or wall, where it will be well lit from the front. If the light falls from the side, the grain of the print will show in the copy. The camera may be set with about twenty inches between the lens and the photograph and the image focussed on the screen. If the image is too small, the camera must be moved nearer to the original, and if too large, it must be moved farther away. Correct lighting, exposure, and development will make the best of what is always a troublesome job.

PRINTS FOR THE CRYSTOLEUM PROCESS.

Which is the proper kind of P.O.P. to use for crystoleum work, and where can it be got?

P.O.P., by which is usually meant gelatino-chloride paper, is not suited for crystoleum work. The material that should be used is the old fashioned albumenised paper, which may still be obtained from some of the dealers. If any difficulty is experienced in getting a supply locally, it may be obtained from such a house as Mr. Jonathan Fallowfield's, of 146, Charing Cross Road, London, W.C. It should be noted that the paper does not keep so well before printing and toning as do the P.O.Papers. It must be toned and fixed within a few days after it has been received, but if wrapped up in blotting paper which has been soaked in a solution of sodium carbonate and dried it will keep a few days longer.

COMBINED TONING AND FIXING BATH.

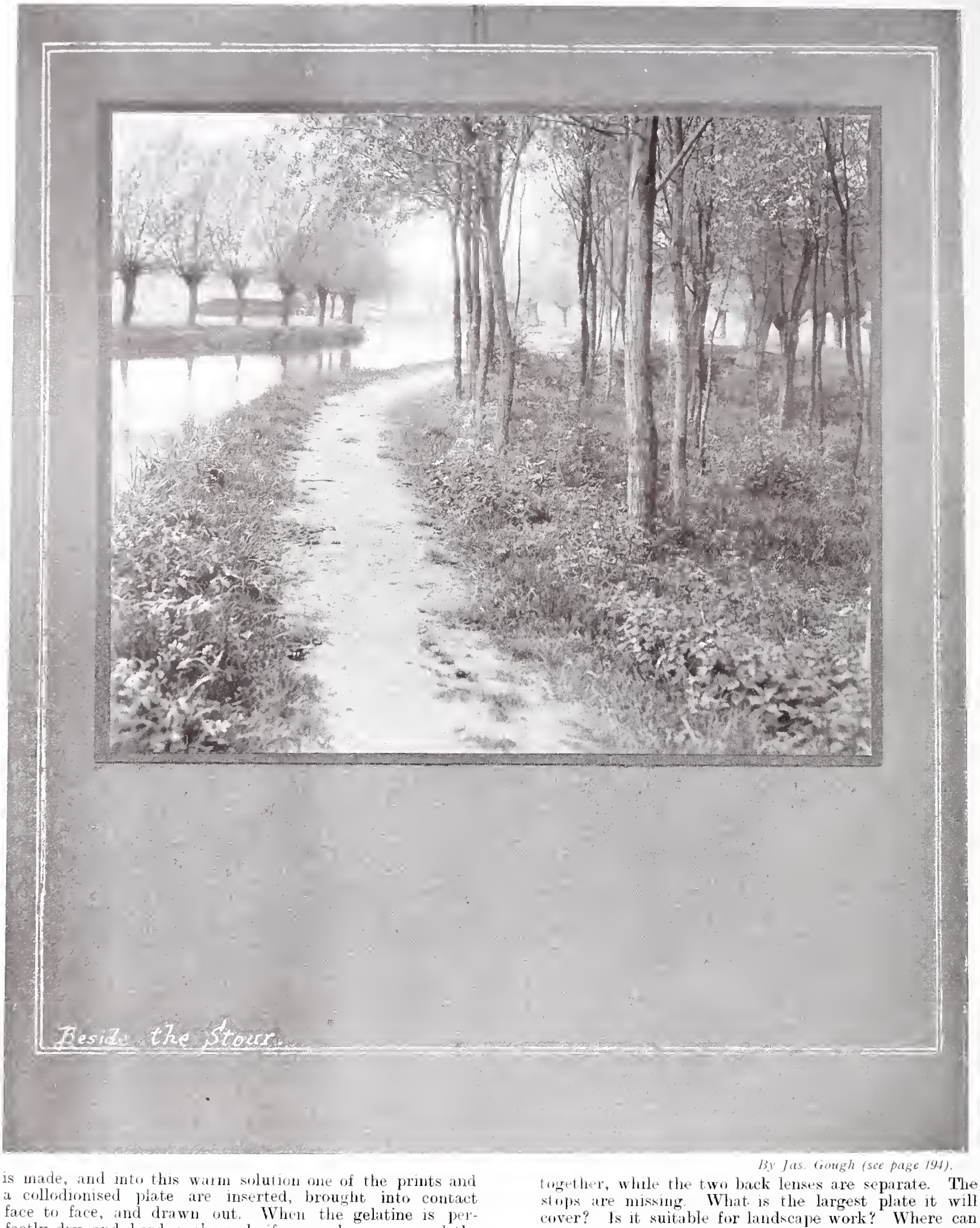
I would like you to give me a first class recipe for a combined toning and fixing bath?

We do not recommend any combined toning and fixing bath. The following is an old one, and gives beautiful tones, but as to the permanency of them the less said the better. Hypo, 8 ounces; ammonium sulphocyanide, 1 ounce; lead nitrate, 175 grains; alum, 350 grains; and water, 1 pint. Dissolve the hypo and the sulphocyanide in fifteen ounces of the water, dissolve the alum and the lead nitrate in the remainder, and mix. The solution should then be heated to 120° Fahr. for a quarter of an hour and allowed to cool. Ten ounces of the solution should be taken, ten ounces of the water added, and then four grains of gold chloride. A simpler bath, and one that is said to give permanent prints, is: Hypo, 3 ounces; distilled water, 20 ounces; add three grains of gold chloride and allow to ripen for twenty-four hours. This bath works rather slowly.

ENAMELLING C.C. PAPER.

How can I enamel prints made on P.O.P. as enclosed? The instructions say that it is to be done in the same way as with albumenised paper, but my books say nothing on that subject.

As the paper is coated with a collodio-chloride emulsion, it cannot be glazed by squeegeeing it to glass in the same way as with gelatino-chloride paper. Some sheets of glass should be made thoroughly clean and dried. They are then to be coated with enamel collodion in much the same way as a negative is varnished by pouring a pool of the collodion close on one end of the plate and by gently tilting each of the corners downward in turn, causing the collodion to flow over the whole of the plate without passing twice over any one part. As the collodion has a tendency when dry to strip off the plate, it is better to first run a line of indiarubber solution round the edges of the plate. Any surplus collodion is poured off at one corner, and the plate being held at an angle is rocked to and fro till the collodion sets, when the plate is immersed in cold water till the solvents used in the collodion evaporate. The plate is then removed and dried. In the meanwhile a solution of gelatine—say ten grains to the ounce—



By Jas. Gough (see page 194).

is made, and into this warm solution one of the prints and a collodionised plate are inserted, brought into contact face to face, and drawn out. When the gelatine is perfectly dry and hard a sharp knife may be run round the edges just inside the indiarubber line, and the print may then be stripped. The gloss obtained in this way is much less liable to injury by moisture than is that obtained by squeegeeing gelatino-chloride prints on plain glass.

SECOND-HAND LENS.

I have bought a second-hand lens with "Darlot Paris" upon it. I am thinking of making a camera to fit it, but cannot get any information as to its focus or the size of plate it will cover. The front glass is two and a half inches in diameter, the back lens is about the same, and the front lens consists of two glasses cemented together, while the two back lenses are separate. The stops are missing. What is the largest plate it will cover? Is it suitable for landscape work? Where can I get a set of stops to fit? The front lens appears to have patches of vapour on it. Will this affect the definition? Do you advise me to make a camera with square bellows or conical? I want to have every modern improvement in this camera.

From the description, the lens appears to be a cabinet portrait lens, covering something less than a half-plate with full aperture, but if stopped down and used for landscape purposes it might cover a good deal more. The stops can be made out of thin sheet brass at little expense. The tarnishing on the front lens is not likely to affect the definition, but may cause a slight general fog all over the plate, the extent of which would depend upon the depth to which the corrosion has gone. We prefer square bellows to conical, but this would depend upon whether the camera has to be carried any great distance, as by adopting the conical form the camera may be made much lighter. We have endeavoured to give the information required, but without having the lens in our possession it must be largely a matter of guess work. With a little trouble the information can be obtained in a more definite form. If a window is blocked up with brown paper or cardboard, and the lens is fitted to an opening in this cover, the room will be converted into a large camera. If then a large sheet of white paper is held behind the lens at the point of focus it will be easy to measure the size of the plate it will cover. It is then only a matter of stopping down to get the whole of the field covered sharply. Unless it is intended to do portrait work, it would seem to be better to get a more modern instrument, especially as a considerable amount of expense is contemplated in making the camera.

Near Stratford St. Mary (see page 194) *By Jas. Gough.*

PHOTOGRAPHS OF LIGHTNING.

How are lightning photographs made? How is one to know when the exposure is to be made, and how long should it be?

The only way to secure photographs of lightning flashes is to select a dark night when the conditions are favourable, and having set the lens for infinity, to point the camera in the direction where the storm is brewing and, having uncapped the lens, to wait till the flash occurs. The lens is then capped and the plate changed. The position of the camera is changed, if desirable, and the arrangements made as before. With judgment and luck, one or two flashes may be secured by the expenditure of half a dozen plates.

COPYING AN UNTONED PRINT.

I have an untoned print from a negative that has been broken. It has gone very yellow. Is there anything that will improve it—I think I have seen ammonia recommended—and how should it be copied?

The only thing that can be done is to copy it in the camera. If it is very dark it will be well to tone and fix it, but if it is only partially printed out it will be better to copy it as it is by artificial light. A weak solution of ammonia (say five per cent.) has been recommended as a cure for yellowed prints, but it is very uncertain in its action. It will be better to make the best possible negative from the print before trying the ammonia. The print, of course, must be evenly lit from the front or the grain of the paper will show in the reproduction. To copy full size the camera must have an extension equal to twice the focus of the lens, and the lens must also be set at twice its focus from the print to be copied.

YELLOW STAINS FROM POTASSIUM FERRICYANIDE.

Can you tell me how to remove the yellow stains left after reducing with a weak solution of potassium ferricyanide? I can get very striking effects by over printing mountain landscapes and by reducing parts with the ferricyanide, but the snow having a yellow tint is rather a bar to this method of working.

The stains do not appear to be capable of removal. We have been troubled with these stains and have avoided them by abandoning the ferricyanide and by substituting for it a very dilute solution of iodine in potassium iodide, following it up with hypo and plenty of water. Another reducer which has answered well for the same purpose in our hands is a dilute solution of potassium permanganate about the colour of port wine, slightly acidified with sulphuric acid. Its action is very speedy, and although it leaves a brown stain on the print, this can be readily removed by a weak solution of oxalic acid, followed by washing.

NOTICE TO ENQUIRERS.

Answered by post: F. M. C., Ashton-under-Lyne, J. C., Mrs. Payne, H Smith, Puzzled, Tourist, J. Statham, E. W., A. Clarke, Darlington, H. G. W., J. O'Neill, W. Jephcott, Klito, Fogged, Walter Sands, Chemist, E. J. Headley, Navy Cut, R. H. L., H. Burke, Constant Reader, Competitor, H. Heddington, T. Scott, Bertie Pink, C. J., T. P Johnson, E S. Green, Studio, J. H., E. Sundridge, M. King, H. A. Banks, N H Thompstone, W. T. T., G. R. L. Adamson, Kodak, W. A. H., G. Stocks, Methylated Spirit, Eastbourne, J. H. B., Mc. H. McDonald, Apprentice, A Disgusted Shareholder, F. P., G. T. Bartlett, W. F. H., Scot, W. A. M., W. Thain, Edinol, M. W. Perry, Berliner, Ink Stain, W. Palmer, J. Wallis, L. S H., S. Carlile, J. G. T. Duddington, W R. A Goddard, G. E. G, S. Pepperdine, C. S. A., T. R. Bromsgrove, E. L. N Tribe, Professional, D. H., T. Buszard, W. F., Cardiff, H. C. Richardson, Orthochromatic.

"The time has come, the Walrus said, to talk of many things.

A CORRESPONDENT of a contemporary has been grievously exercised in mind as to the cause of numerous holes in the gelatine of his dry plates. The editor comforts him by pointing out the large number of ways in which such holes can be formed, and the wonder seems to be why all negatives are not so decorated. Amongst various hypothetical causes is named the well-known partiality to gelatine of black beetles, moths, flies, etc., and I remember once reading a piteous wail from a man who had stood some precious negatives on the kitchen dresser to dry and the cockroaches had fallen upon them tooth and nail (I suppose they have teeth and nails?) and devoured all but the glass. This suggests a good method of cleaning off the film from spoilt plates.

* * *

Keep a cockroach.

* * *

Within a few minutes of reading about these holy negatives I came across a paragraph in a newspaper dilating on the hatred insects have for music. A band playing beneath trees causes the caterpillars to fall to the ground. (No wonder.) Locusts will not alight while the Soudanese are blowing their horns and beating tom-toms. (No wonder, again.) Moreover, cockroaches, crickets, etc., will leave a house if a loud brass instrument is played for a few nights. (Not bad judges, either.)

* * *

It is not stated what effect this brass band cure has on your neighbours, and it seems doubtful whether you would pacify them by pointing out the benefit they were deriving in the form of a Noah's Ark procession of cockroaches, crickets, moths, beetles, flies, etc., leaving your house under the influence of Orpheus for theirs.

* * *

There is another thing that puzzles me in this connection. If the music remedy is so reliable, why do the members of German bands scratch themselves?

* * *

The other day I was standing in spell-bound admiration before a well-known work of art depicting the great set-to between Tom Sayers and J. C. Heenan (the Benicia Boy) in the year 1860, a combat beside which even the immortal fight between Cuff and Dobbin pales into insignificance. To this picture there is a numbered key giving the names and certain striking particulars of the members of the crowd, which seems rather a mixed congregation, because, although it includes the Earl of Dash and several Honourable Blanks, there are also present the Tipton Slasher, Joey Jones (the eccentric), a sporting Farrier, a sporting Barber, a sporting Butcher, and a sporting Bung, Mr. Isaac Isaacs (the Sally), Mr. Joseph Myers (known as Stunning Joe), Mr. John Coates (known as Solid), and many other choice spirits.

* * *

But what interested me most was the fact that two of the onlookers were catalogued as photographists, and one as a photographer. I don't know what was the difference. Perhaps the photographists were members of an early Linked Ring as well as patrons of the Prize Ring. I found them all out in the picture, and noticed that they were easily distinguishable from their companions, for whereas all the rest, even the Tipton Slasher, wore ponderous top-hats, the three camera men affected a head-gear which was a sort of compromise between a motor cap and a workhouse pudding. I refrain from chronicling here the names of the three gentlemen, because for aught I know they may now be eminently respectable old gentlemen who are now in the habit of exhibiting pastoral subjects at the Salon. One never knows.

* * *

When I write paragraphs for this page there is (originally) a rhythmic flow in their sequence and a matchless symmetry in their construction that the reader of the page as printed would never suspect. What happens? This. Along comes the editor with the abhorréd shears and slits my fair manuscript into shreds, and reconstructs it so as in some respects to resemble a stall at a jumble sale.

* * *

Let me modestly compare my original work to Hogarth's "line of beauty." What would you think of that gracious line chopped into bits and stuck together in the wrong order? Of course, I know why it is. There is a certain sized column to fill and just those paragraphs go in that happen to fill it. That is like sandpapering down the Venus of Milo to make a tailor's dummy. Sometimes when I am warming up to a fiery peroration, the said peroration is omitted and used as an introduction the following week, or maybe it had appeared already the week before.

* * *

Well, there is a limit to my endurance, so let the editor take warning and abate the fury of his shears, or I will not answer for the consequences. "I cannot tell; things must be as they may; men may sleep, and they may have their throats about them at that time; and some say knives have edges. It must be as it may; though patience be a tired mare, yet she will plod. There must be conclusions."

* * *

A correspondent has been asking if it is not possible to establish a photographic bureau where advice and practical demonstrations could be given, and he expresses himself as willing to pay half-a-crown for five minutes' assistance. Now, if he will guarantee, say, five hours a day for five days a week at five sixpences for five minutes, I'll be that bureau myself.

* * *

But I am afraid it won't come off, because another scribe has given the game away by pointing out that you can always get any photographic information that you may require by going into a dealer's shop to buy a mount and then pumping all the salesmen. A good many do this, only they generally forget to buy the mount.

* * *

For my part, I can't imagine how it is that these same assistants keep themselves from doing murder. The much-vaunted patience of Mr. Job was petulance compared with their suave equanimity. Why, only the other day, a haw-haw swell walked into a London dealer's and asked if there was a fellah who could explain to him the manipulation of a camerah he had just purchased from a rival dealah close by. And the assistant only said—well, perhaps I had better not put down what he said, but in the circumstances his remarks should be reckoned to him as a benediction instead of what it technically was. Imagine the circumstances. It was like a man buying a cigar at one tobacconist's and going to another to ask for a match to light it; it was like dining at Frascati's and afterwards calling at Romano's to borrow a toothpick; it was like—well, it was like his tarnation cheek. And yet, mark you, all the assistant said was—what I have omitted above.

* * *

Suppose we remember that the assistants at a dealer's establishment have got their business to attend to, and that they will be almost as pleased to sell us an elementary book of instructions for a shilling as to stand and answer a lot of chuckle-headed questions. Perhaps quite as pleased.

THE WALRUS.

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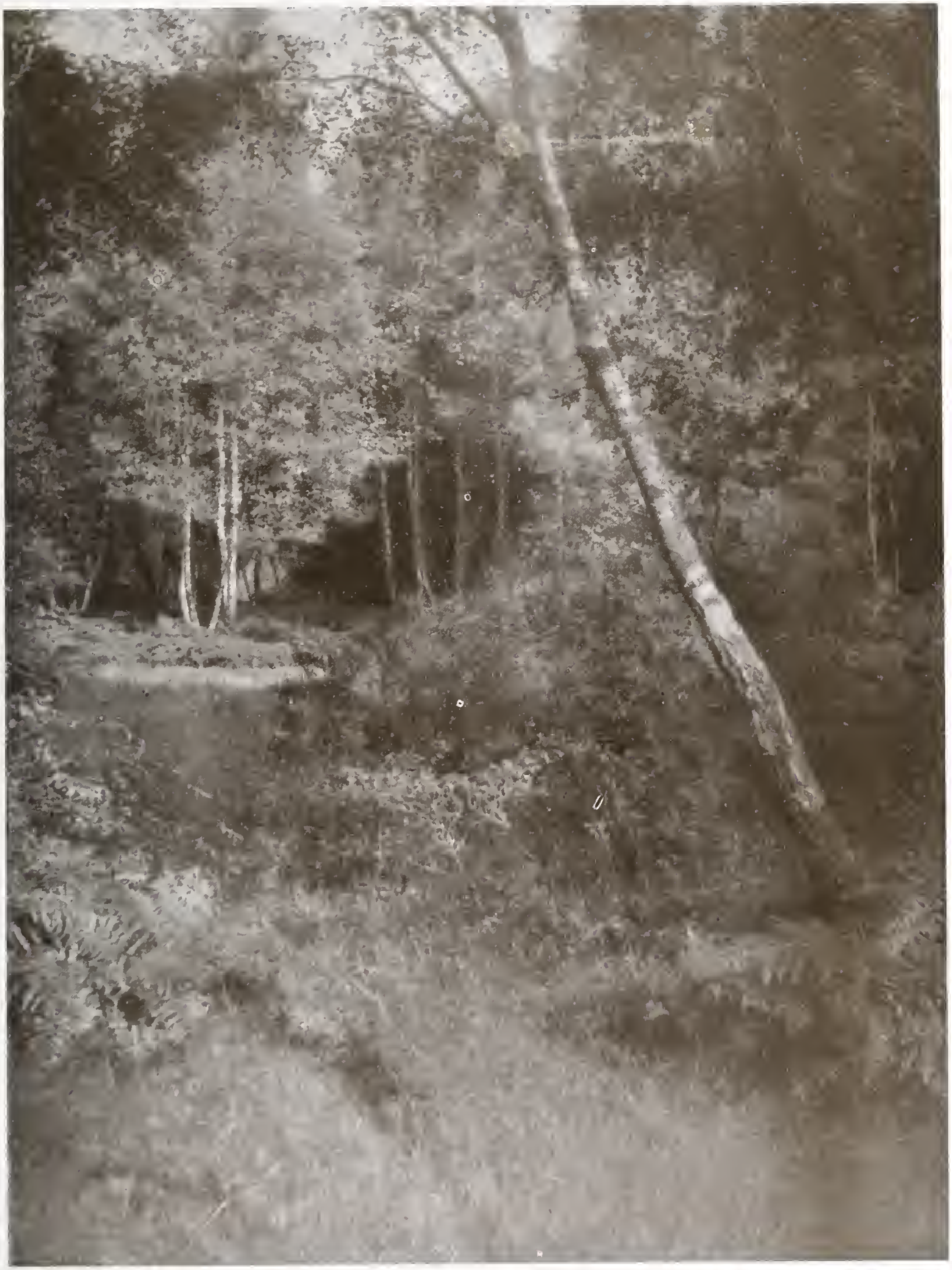


IN A BIRCHWOOD. BY J. CARPENTER.

Next week we hope to be able to give a critical note upon the landscape work of Mr. Carpenter, with reproductions of some of his pictures

A PHOTOGRAPHER IN SUNSET LAND

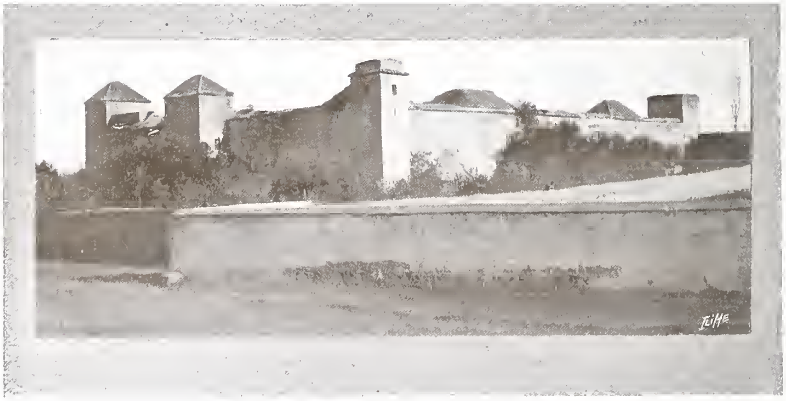
Written & Illustrated by JOHN.H.AVERY.
Court Photographer to His Sherefian Majesty
Mulai Abdul Aziz, Sultan of Morocco.

V.—A MILITARY EXPEDITION.

DURING my stay in Morocco it had always been my wish to go into camp with the Sultan during his travels from place to place, and at last, to my intense surprise, I heard that not only was my wish to be gratified, but the journey in question promised to partake of a warlike character. In this particular instance, the object was to bring to terms the hitherto untameable Zemoor tribe—a tribe which for years past had proved a veritable thorn in the side of the Government.

The Zemoories, a large and warlike clan, had been causing for months past an enormous amount of trouble and distress to the surrounding villages, and, not content with burning many of them, and calmly annexing at the same time such grain, cattle, and personal belongings as they came across, emboldened with success, had decided to make an attack upon the city of walls, Mequinez, this being a royal city and the third in importance in the Moroccian empire. Undoubtedly but for the prompt despatch of troops from Fez, Mequinez, although only thirty-five miles from the capital, would have fallen into the hands of the Zemoories, even if only for a short period. As it was, the city, with some 4,000 troops to protect it, was in a state of siege for months.

Late in last September, the position became so strained that the Sultan decided to go; so with much ceremony the Imperial tent was erected outside the walls of Fez, this in Morocco being tantamount to an ultimatum. Couriers were despatched to all parts of the country, and in a few days all Morocco knew that an expedition was being arranged.



The residence of the Sultan's brother in Mequinez.

From the erection of the Imperial tent to the ultimate departure of the "Mehalla," or camp, Fez was all bustle and excitement. Day by day loyal tribes sent in detachments of their best fighting men to assist their lord in the good cause; also with an eye for any loot which might come their way during the despoliation of the Zemoories. Each little band on their arrival camped in the accepted Moorish fashion on the hillside in close proximity to the Sultan's tent until the sunburnt sides of the "Jubal Nazala" became a sea of canvas erections not at all unlike Aldershot during the manœuvres. Never was such a time known for the Jews, who are the tent-makers of the country. Night and day they worked, using Manchester cottons and canvas by the mile, and the rich Tazzes of Manchester and Fez must have raised their hands to Allah many times for the good fortune that had been bestowed upon them.

Camels and mules had been requisitioned from all parts of the country, but still more were required. So the officials laid hands upon all animals belonging to travelling muleteers entering the town gates laden with merchandise from the coast. This so frightened the owners that many hid their animals some miles out, and sent their loads in on donkeys for fear of the Government commandeering at exceptionally low hire the only means they had of obtaining a livelihood. From November 1st, when the "Mehalla" was due to start, until the 10th of that month, when it really did move, the city was in a state of violent ebullition, the people not knowing what day the Sultan would depart.

At last everything was ready, and everybody more or less satisfied, each having dismally failed to coax out of the Government double the number of tents and mules required, but each doing wonders with the quarter of that amount which he had actually obtained.

Early on the morning of November 10th, the exodus from Fez commenced, and continued throughout the day, until the city began to look deserted. What a movement! Over 40.000 men and 75.000 animals, together with thousands of tents of all sorts and sizes, from the royal "Kouher" with its huge gilt ball down to the lowly bell tents of the "Askari," or foot soldiers, forming possibly the most stupendous camp that had ever been seen on the plains of Morocco. The first camping-ground was at "Ras el Wad," some three hours' march from Fez, and on my arrival late in the afternoon I saw for the first time and understood what it really meant for the Sultan to travel in his dominions. In the immediate centre of the camp on slightly elevated ground was erected the Sultan's enclosure, consisting of the royal tent, several large marquees for the ladies, and a number of cooking and service tents, the whole being surrounded by a canvas wall seven feet high, forming in a way quite a small town. Outside this and facing the east was the Sultan's prayer tent, of purple and red cloth, looking on to the only open space in the camp—a piece of ground about two hundred yards by one hundred, bordered by maxims, and forming the reception square for the many tribal deputations that arrived day by day to proclaim their loyalty and fealty to the chosen of Allah. On the right-hand side of the prayer tent all the Government official tents are placed, as the moving of the Sultan necessitates moving the seat of the Government and all the officials. These have to transact their business day by day in camp exactly the same as if either in Fez or in Morocco City. Radiating in all directions from the Sultan's enclosure for nearly half a mile are the tents of those connected with the Government, each person having a particular position allotted to him, so that the camp once formed is easily re-erected day by day.

In camp the day after a storm.

Surrounding the whole thing, and touching each other, are the bell tents of the soldiers, and unless forming part of the Sultan's camp one is not supposed to cross these lines. The camps of the various tribes are built in exactly the same manner, and they arrange themselves all round the principal one, the whole thing closely resembling one huge sun surrounded by a lot of small planets.

In this enormous assemblage the only two people in European dress were Mr. Walter B. Harris, of Tangier, and myself, so I may be forgiven for saying that at the outset I felt just a little bit strange. The Sultan had given us a position directly in a line with his prayer tent and almost behind the row of maxim guns. My personal equipment consisted of one large wall tent for myself and a couple of bell tents for my cook and soldiers. I had for transport purposes five mules, six soldiers, and a couple of horses, each soldier being in the possession of a really good rifle and a fair supply of cartridges. I, as is my wont, being without any of the dogs of war except a small revolver, which I hardly think would have killed a chicken if fired.

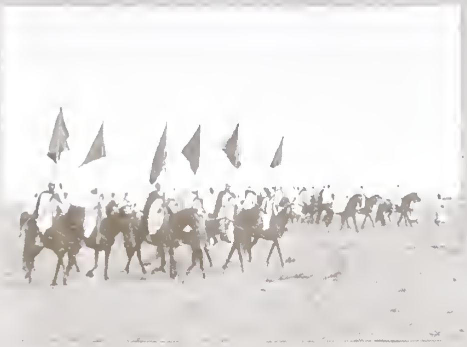
I had with me a full photographic equipment, so as to be able to develop and print *en route*. Of the various cameras which I had with me none gave me greater satisfaction than my old 5 × 4 roll holder, and, although I exposed hundreds of spools in it, I have never known the camera to fail me in any one instance. Strapped to the saddle, it was always ready, and the changing of spools was easily accomplished, even when riding.

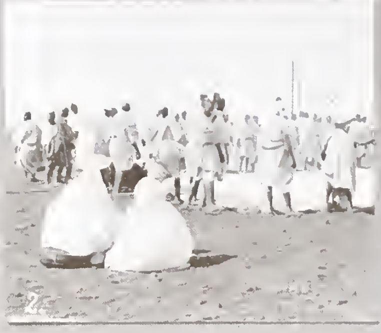
The usual method is for the camp to start a couple of hours after sunrise, travel until midday, when the tents are pitched and the Sultan retires to his private quarters. About 2.30 p.m. he comes out, and, seating himself in his prayer tent, goes through the official business of the day, varying it by receiving the many deputations that claim audience. Nearing sunset, His Majesty, in the presence of his people, openly prays, immediately afterwards retiring to his quarters. Two hours after sunset the Imperial band play the only two tunes they know for the Sultan's pleasure and our pain, and one hour afterwards the last [illegible] the whole camp prepares for rest. To me for the first few nights bed meant acute wakefulness. The soldiers lining the edge of the camp, keeping watch, sing out to each other every few minutes to prevent their sleeping and to keep the various Kaids informed of their vigilance. Their noise, coupled with the movements of the animals and the prayers of many shareefs, effectually prevented my taking anything like rest.

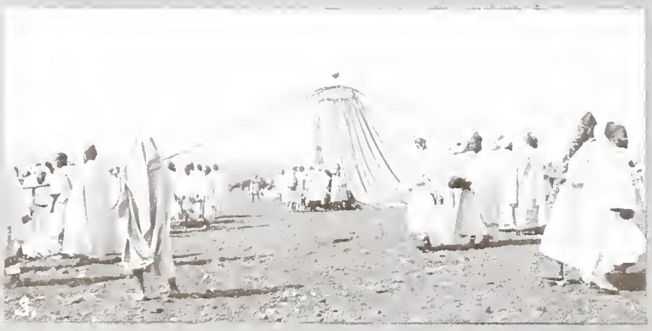
With sunrise comes the boom of the cannon, followed by the Moorish buglers, who sound the well-known English reveille, and in a few moments the camp teems with life, for, as I have said before, the Moor is no sluggard.

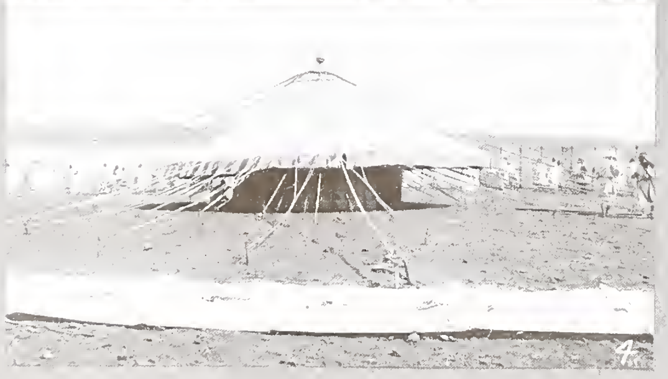
There are two strict rules in travelling, and they are rigidly observed—Firstly, that all tents must be down before the Sultan's; and, secondly, that his must be the first to go up.

Owing to the fact that the loaded mules travel much slower than the Sultan's procession, it is necessary that they make an early start, so that on arrival at the new camping-place all will be found ready. About one hour after sunrise practically everything has left, and only those people forming

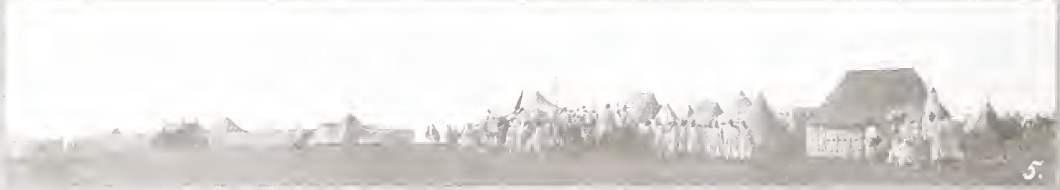


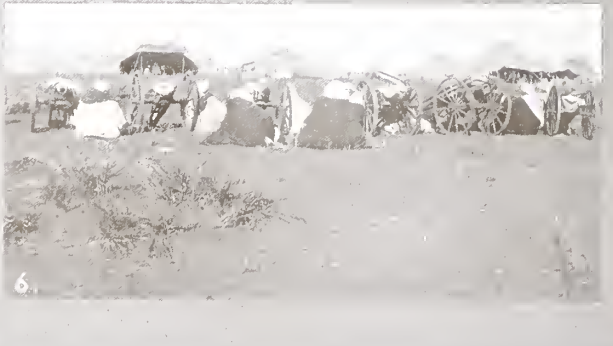






part of the Imperial escort remain behind. Then commences the only weary wait of the day, and should it by chance be a wet morning a particularly disagreeable and irritating one. One never quite knows what time the Sultan will elect for making his appearance, and, of course, it is not until he has left his tent that the soldiers can enter to dismantle the same. From what I could gather, I should say it largely depended upon his ladies; they are always late, even in Morocco. When ready, and, of course, completely covered up, the Royal harem would leave by a side door, each lady mounting her particular mule, and then, guarded by the royal slaves, draw off to some half mile from the camp. However, eventually Mulai Abdul Aziz appeared, and in his own inimitable manner wished all his people good morning.





1. *Standard bearers belonging to a country Kaid.*
2. *Erecting the Sultan's tent. Seated is Menhibbi, the Minister of War, who is watching its erection.*
3. *Erecting the Sultan's tent.*
4. *The tent up. The boundary wall lying on the ground ready to be put up.*
5. *The Sultan's encampment. On the right are the officials' tents, and on the left his private mosque, whilst in front are his prayer tent and signal gun*
6. *The Sultan in camp receiving the Zemoor tribes after the battles near Mequinez. The Zemoors have taken sanctuary amongst the maxim guns pending the decision of the Sultan, who is seated in his prayer tent conversing with Menhibbi.*

Directly the Sultan leaves his tent hundreds of his bodyguard rush inside the enclosure, and in four or five minutes the whole thing is packed on mules, which are driven at top speed to the new camping-ground, so that the tent shall be found ready on his arrival. During the packing of the tent the Sultan remains seated in a red upholstered chair, and receives any important officials that have arrived during the night. Directly the last remains of the Royal tents have left, all the tribes accompanying the "Mehalla" line up one by one in front of the Sultan, and wish him good morning, repeating the cry of "*Allah ibarak omar Cide*" three times, and then immediately galloping away at top speed to make room for the next tribe, and so on, until the whole lot have paid their respects to their lord and master. This function is a particularly attractive one to watch, and if it were possible to photograph it would make a particularly striking subject. Following this comes the cry of "Horses for our lord," and the horses, bedecked in the Imperial trappings, are led before the Sultan for him to choose from. Having selected one he mounts, and then, with Moorish band playing its best and the twanging of the gimbri and the beating of tambourines and drums, Mulai Abdul Aziz sets out for the day's march. In front are a picked corps led by Sir Harry Maclean, then the artillery, followed by the Sultan, riding entirely alone. Some thirty yards behind are the Royal lance-bearers, then all the leading Government officials, the rear being completed by the Imperial bodyguard The Sultan always starts in a westerly direction, and then turns into the correct course, and goes straight for his ultimate destination. During the "trek," the governors of the various villages come down and tender their respects; they are always received by the Sultan, who stops, wheels round, and thanks them personally.

Towards twelve o'clock the tent of the Sultan is seen in the distance, and one knows the day's march is finished.

The erection of the Sultan's tent is quite an event, and one in which nearly all the Kaids and Bashahs who can get away from the Imperial escort are eager to take part. The whole business is in charge of one "Kaid bel Harty," who issues all instructions. When the top portion is ready to go up, all the officials pull on the ropes, and, with the usual loud-voiced exclamations for the safety of their lord and master, the huge gilt ball rises majestically in the air, followed almost immediately by hundreds of smaller tents, the owners of which had been patiently waiting the sign to start their own little encampments.

Contrary to the usual idea of Eastern luxury, the Sultan when travelling is not surrounded by every comfort, as, owing to one of the many Moorish superstitions, he cannot have any rugs in his tent, and his bed is made directly upon the ground. This on a real wet day is not exactly ideal.

Some four days after leaving Fez, we got within hail of Mequinez, and on our approach practically the whole town turned out to welcome the Sultan and to show their appreciation of the termination of what had been quite a protracted siege. The entry was one long triumphant march, the people surrounding the Sultan, and with cries of welcome issuing from their throats almost carrying him literally to the city gates. To anyone seeing this procession was to know that Mulai Abdul Aziz was indeed the favourite of his people, and not the disliked monarch that our press are so fond of describing.

The camp was pitched on the Zemoor side of Mequinez, and then commenced the really serious portion of the expedition. On the approach of the Sultan and his forces, the Zemoories had abandoned their villages in the immediate vicinity, fleeing to the hills, feeling quite certain that the Sultan would not try and force their hands by travelling in what to him would be an unknown and unexplored part of Morocco. The Minister of War, however, had carefully arranged his plans, and instead of the whole "Mehalla" journeying into what might be a country almost destitute of food and forage for the animals, simply sent forward detachments. These detachments consisted of loyal neighbouring tribes of the Zemoories, who, with the prospects of loot and the paying back of numberless old scores, responded eagerly to the Sultan's call.

During the following four days quite a number of small battles took place, none of them of a particularly deadly nature, but of sufficient importance to cause great jubilation in the camp, as they nearly all ended in a victory for our side, the returning heroes being always preceded by a certain number of men proudly bearing upon their bayonets the gory heads of the vanquished. As the enemy retreated, so did the "Mehalla" advance, burning up every village they met with, and collecting quite a large number of cattle and mules, besides being able to discover nearly all the underground grain-stores, thereby laying in plenty of food for the enormous number of animals in camp.

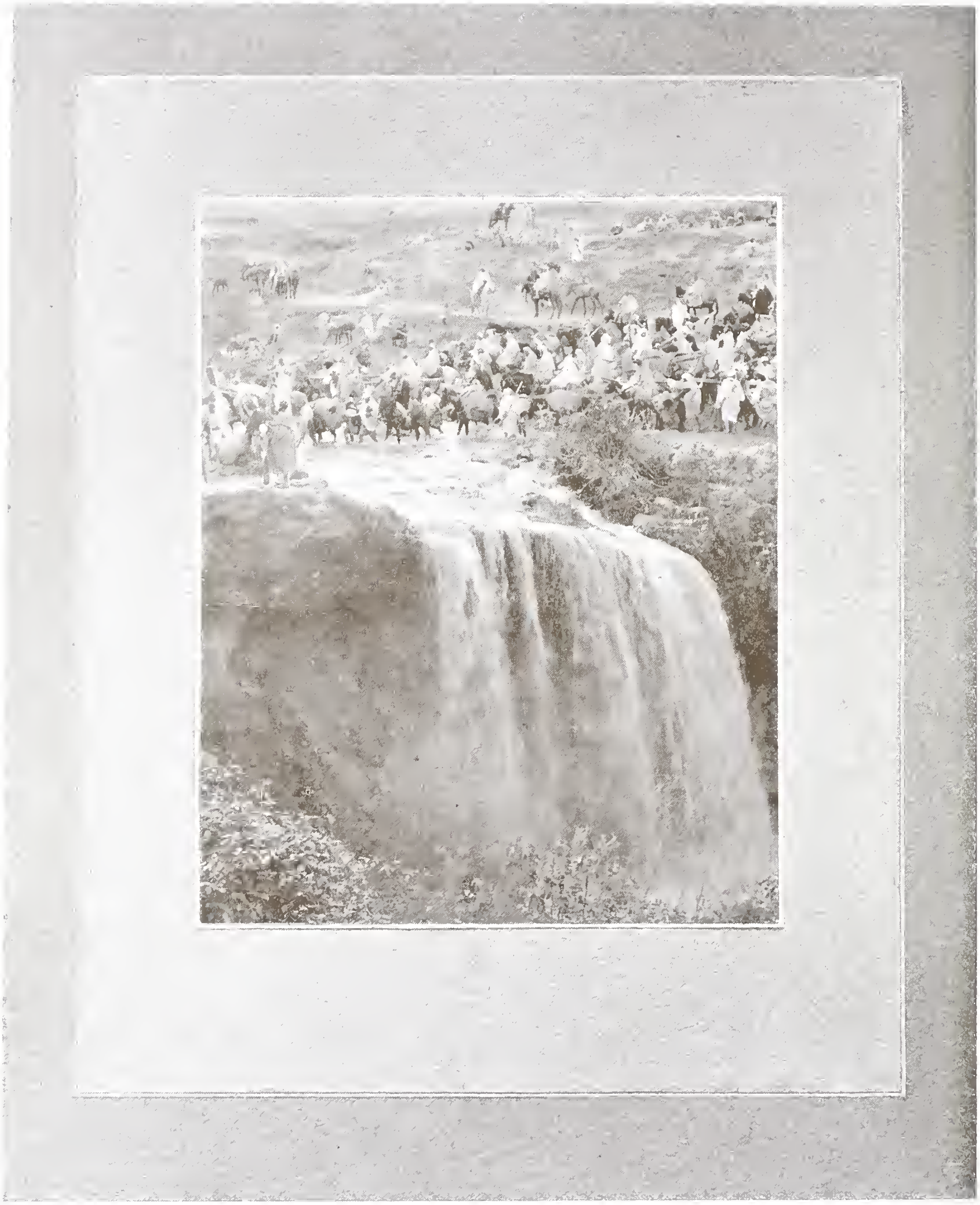
Once, and once only, was I able to be present at an actual engagement, and then only as a spectator. During one of our marches we came in close proximity to a band of Zemoor fighting men. The camp had been pitched some distance away, and the Sultan, who personally directed operations, ordered all except the military back to camp. Then having thrown out flank detachments on either side, the whole force moved on towards the fast retreating Zemoors, I, of course, following very carefully in the rear. The Sultan sent on in front about 2,000 soldiers, who speedily caught up with the enemy, and commenced one of the usual encounters. Both sides mixed up together, and discharged shots indiscriminately alike on friend and foe, until the Zemoor tribe (feeling, no doubt, that they were in for a good thrashing) retreated and fled precipitately to the hills, leaving their belongings and several of their comrades on the battlefield, our soldiers proudly bringing back to camp the heads of the latter.

For nearly a fortnight this skirmishing went on, each day bringing more victories for the Sultan and further losses to the enemy. The Zemoor tribe were fast becoming disorganised, and at last, feeling that their reign of independence was over, craved an audience of the Sultan, which was granted.

With the ending of the strife between the Government and the Zemoories commenced the great fast of Ramadan, when for a whole lunar month true believers have to abstain both from eating or drinking between sunrise and sunset. The advent of this fast, coupled with the victory, caused the Sultan to decide to keep the camp stationary instead of moving through the Zemoor country to Rabat. For several days everything remained perfectly quiet, and I was having a particularly interesting time making negatives day by day, and developing in my tent after dark.

One day, however, the news arrived that "Bu Kamara," the pretender, thinking the court was not returning to Fez, intended making a raid on that city, and had gathered a very large body of men from Taza and the surrounding districts. This man's object undoubtedly was the wrecking of holy Fez, and as the messengers kept arriving one after the other, each with bad news, the Sultan ordered the camp to return. The return to Fez was made in two days, and on December 10th Mulai Abdul Aziz arrived at the capital and commenced what all the world now knows—the struggle against the pretender, which, I am pleased to say, has now ended in the total eclipse of the latter.

This article concludes the series by Mr. Avery. Preceding ones dealt with The Journey up Country (June 20th), The Sacred City of Fez (July 4th) A Moorish House (July 18th), and Moorish Life and Manners (August 8th).



The camp crossing the waterfall near Mequinez. *By John H. Avery.*

Tinting Transfer Paper for Carbon Work.

The effect of a carbon print can be greatly modified according to the substance and tint of the transfer paper which forms its base. Plenty of directions have been given from time to time for the preparation of transfer papers, but the subject of modifying the colour of the paper in the process has seldom had attention. The method of doing so, just suggested by Blockmann, will be found described in the article below.

THE carbon worker who has given any attention to the principles of the process is aware that the paper, or other material upon which he develops the picture, must be impervious to water and air. This holds good whether he is working the single or the double transfer process. If he attempts to develop the image upon a sheet of ordinary paper, even though it may be fairly stout, or upon a sheet of thin card, he will find that at an early stage of the work blisters will appear, and enlarge until they burst, leaving the gelatine hanging in rags. If he examines a piece of commercial single transfer paper, it will be seen that it is coated with gelatine, and on testing it with hot water it will be found that the gelatine is insoluble.

Had the gelatine been left in its soluble condition it would, of course, dissolve in the hot water and allow the image to float off the support. The instruction given in the text books for the preparation of single transfer paper is to add cautiously to a solution of gelatine a sufficiency of chrome alum to render it insoluble once it has been dried. An excess of chrome alum brings the gelatine to a stringy mass, which must be again rendered liquid by the addition of acetic acid.

The simplest method is to prepare a solution of gelatine one ounce in twenty ounces of water. It is, of course, possible that a much smaller quantity will be sufficient for the purpose, and it is not desirable to make up more of the solution than is required immediately, as it will not keep in good condition for any length of time. The method of coating the paper must depend largely upon the manipulative skill of the worker. It may be laid on in even sweeps with a broad camel-hair brush, or, if an even coating cannot be given in that way, the paper may be first sponged over with warm water till it has expanded to its uttermost, when the gelatine will spread more easily. Coating by floatation necessitates the use of large dishes and a considerable amount of solution.

As soon as the gelatine has set it may be floated upon, or brushed over with, a five per cent. solution of chrome alum, which will render it insoluble. Those who are in the habit of using formaline in other processes, may find it more convenient to use a three per cent. solution of that hardening agent than the chrome alum. There is, however, practically no difference in the results whichever is employed. When small samples only of the paper are to be treated, a method at once convenient and economical is to immerse the paper in celluloid varnish. This makes the paper absolutely waterproof, and in no way affects the natural surface of the paper. Although eminently suitable for small sizes, it is much too expensive to be employed when large quantities have to be dealt with.

W. Richard Blockmann, writing in a recent *Photographen Zeitung*, calls attention to the advantages attending the preparation of papers not obtainable in the ready-coated state, and also to the desirability of tinting them with various dyes for different subjects to obtain harmonies between the tissue used and the support.

Experiments with a diluted solution of gelatine and alum are referred to, but by themselves present no advantages over the methods we have previously described. In dealing with aniline colours to obtain various tints, the use of a mordant is necessary to prevent the colours being discharged by the hot water used in development. Whatman paper was first washed with a solution of tartar emetic, then with a solution of tannin, and, having been rinsed in water, was immersed in the dye. It was found, however, that the water marks in the papers repulsed the dye, and that the colour was absorbed unevenly.

White transfer paper, on the other hand, took the dye well, and was found to be proof against the action of hot water if, after being dried, it was immersed in a solution of tannin, the tartar emetic being found to be superfluous. After the bath of tannin, the paper requires to be washed, and when dried it is ready for use.

This experiment was afterwards combined with a method suggested by Gädicke, in which the colour was mixed with the gelatine. A flat soft brush, a sheet of glass on which to lay the paper while coating it, and several saucers to hold the solution of tinted gelatine are required. The colours experimented with were chrysoline for the yellow tints, safranine for red, methyl violet, and malachite green. Mixtures of the two first colours gave varying tints of orange, and combinations of the violet and the green gave various tints of blue. Obviously, other combinations can be produced by the mixture of three colours, and for general purposes will be more agreeable than brilliant reds, yellows, greens, and blues, however light in tint.

A sheet of paper of the selected texture is laid upon the glass and tilted slightly forward. Then the warm solution is evenly spread upon the paper, care being taken that the strokes of the brush follow quickly, and that each slightly overlaps the previous one. The manipulation is much the same as when a spirit varnish is applied, and care must be taken not to go over the gelatine again once it has begun to set. As soon as the gelatine has set, the paper may be hung up in a well-ventilated room to dry.

When the coating is quite dry the paper is immersed in a solution of tannin for from five to ten minutes to render the gelatine insoluble. Some care must be given to avoid the formation of air bells, which would leave soluble spots of gelatine on the paper. After a short washing in cold water, the superfluous tannin is removed and the paper is ready for drying. The tannin plays a double part, it renders the gelatine insoluble and it acts as a mordant, fixing the colour in the paper.

It is suggested that in printing from negatives in which the sky is a blank, the paper should be graded in colour from blue at the top to green at the bottom, with intervening tints of orange and yellow at the horizon. The suggestion recalls the tinted drawing boards once (and possibly still) popular at certain boarding schools as a basis for chalk drawings. Each solution should have a brush appropriated to it, and it is suggested that with a little experience white clouds might be introduced into the sky.

Although the strength of the solution is not given, it is probable that a saturated solution of tannin was used, that substance being very sparingly soluble in cold water. The solution of gelatine will probably be more manageable in a strength of one in forty than in the one in twenty strength suggested at the beginning of this article, and one part of a saturated solution of alum to each forty parts of the gelatine solution will serve as a convenient strength to use when working in a small way.

It is in the direction of tints approaching neutral colours that the most satisfactory results are likely to be attained. A slightly warm shade, inclining towards, but not absolutely red or yellow, may suggest sunlight, and shades of violet or blue, scarcely distinguishable from the white paper, may help out a morning or a twilight scene. Experiments should be carried out with aqueous solutions of the dyes before adding them to the gelatine, as the tints obtained by the mixture of aniline dyes cannot be predicted with certainty, but we have doubtless said enough to guide the carbon worker into the way of tinting his transfer papers for himself.

The special exhibition issues of *Photography* will be dated Sept. 26th and October 3rd, and will be published on September 24th and October 1st respectively. As on former occasions, they will contain a full, illustrated, and critical review of both exhibitions.

* * * *

Notwithstanding the busy life he leads Mr. George Davison still finds time to experiment, and has been working with ozotype, platinum, and gum-bichromate. It is probable that he will be represented at the Salon by examples in each of the three processes.

* * * *

Mr. Reginald W. Craigie is sending to the Salon a portrait of Hermann Vezin and a group of the Board of Directors in the Court Room of the Bank of England. The latter, he thinks, may be found too technical in character for the Egyptian Hall, though it is hard to believe that it will not possess pictorial merit.

* * * *

Mr. J. C. S. Mummery always has his exhibition work well in advance, and this year proposes to send landscapes in gum-bichromate and by other processes both to the R.P.S. exhibition and to the Salon. We look forward to see rivalled some of the atmospheric effects that Mr. Mummery has shown in the past.

* * * *

Dr. C. F. Grindrod might well be supposed to have exhausted his stock of negatives after the representative show he made at the Royal Photographic Society's rooms, but we understand that he is going to offer fresh subjects to both exhibitions.

* * * *

The prints which Mr. David Blount proposes to send in to the Salon will be in every instance gum bichromates. Many of these have been ready for some months, and have been submitted to the severe test of being "lived with" awhile before being offered for public inspection. In some instances the first prints were made twelve months ago.

* * * *

Mr. J. Kearney, jun., tells us he is doubtful whether he will submit to the Selection Committee of either exhibition any new work.

* * * *

The work which Mr. Walter Scutt has prepared for exhibition this year is all in gum-bichromate, with from four to six coatings. Two are nudes, one suggested by the story of Iphigenia, and the other by a couplet from Keats. He has a landscape, "A Bend of the Exe," and a semi-descriptive garden scene, somewhat unfortunately titled "Gather ye rosebuds while ye may," since this line is inseparably associated with the very successful picture by Mr. Keighley.

* * * *

Mr. W. Rawlings during the last year has been visiting Dartmoor in the winter, and Holland in the spring, and has probably submitted the pictures obtained on these two excursions to the Hanging Committees of the Royal and the Salon.

* * * *

Messrs. A. R. and F. Read will be sending their largest pictures to the Royal, while to the Salon they have submitted a portrait study and two or three landscapes. Messrs. Read are also represented in the invitation exhibition of the R.P.S. by their pictures "Summer" and "After Glow," both of which were at the Salon last year.

Miss Agnes Jennings is sending her picture "Francis," that was hung at the Salon in 1902, to the Loan Collection, but was doubtful if she would have any work ready in time for the Selection Committees of the exhibitions.

* * * *

Mr. C. F. Inston has in his own words "fallen away from grace," and has been doing little in photography this year, but nevertheless submits one large and one small picture to the Selection Committee at the Royal. He is also sending two large prints to the Loan Collection.

* * * *

Mr. Percy Sheard, who has been unable to devote much time to photography this year, was doubtful whether he could complete the work he had in hand in time for exhibition, but if so it will go to the Royal.

* * * *

Mr. Douglas English will be represented in both the Scientific and the Pictorial Loan Collections at the New Gallery, and is sending some recently produced work to the R.P.S. exhibition. He has had an exceptionally busy year from a photographic point of view, having made about a hundred and fifty negatives of mammals and insects.

* * * *

Mr. Ward Muir adopts the practice of preparing his exhibits a month or two in advance to give him an opportunity of judging impartially of their merits and demerits. He expects to submit three or four small pictures for selection at the Salon.

* * * *

Mrs. Alice M. Dumas sends a woodland scene to the R.P.S. Loan Collection, and will offer something of a similar nature to the exhibition and an enlargement to the Salon.

* * * *

Mr. David Murray contributes to the R.P.S. Loan Collection a portrait of a lady, and is sending two pictures —"The spires of the Black Country" and "A Cherub"— to the Salon. He is also sending to the R.P.S. exhibition three pictures—"On Cannock Chase," "Mrs. M—," and "George Phœnix, Esq." Two of these last are multiple-gum prints.

* * * *

Seven 15in. by 12in. negatives were made, and twenty-four sheets of platinum paper were used, before Mr. W. R. Bland was satisfied with the print that he is sending to the Royal exhibition. The subject is a grouse moor on the flank of the Pennine Range, a district that Mr. Bland has photographed over for many years.

* * * *

Miss Mary C. Eames has prepared a few flower studies in small sizes (nothing larger than 8in. by 6in.) which she intends for the two exhibitions.

* * * *

Mr. Percy Lewis is sending two or three figure studies in carbon to the R.P.S. exhibition.

* * * *

Mr. J. Croisdale Coultas will be represented at the Loan Collection of the R.P.S. by his picture, "The River Aire at Leeds." Although he has one or two pictures in preparation the pressure of business will prevent him from getting them finished in time for either of the exhibitions.

* * * *

Mr. J. M. C. Grove is sending some prints to the Salon.

Landscapes with figures are the subjects that Mr. Alex. Keighley is sending in to the Salon. His intention is to submit some five or six pictures to the Selection Committee.

* * * *

An attack of ptomaine poisoning, from which Mrs. Catherine S. Edmonds is still suffering, has interfered with the studies of peasant life in Belgium and Holland that she had been preparing for the exhibitions. She is contributing the "Musical Box," that was exhibited last year at the Salon, to the Loan Collection at the R.P.S. Mrs. Edmonds, who has our sincere sympathy, hopes to be recovered sufficiently to send a few prints, mostly studies of children, to both exhibitions.

* * * *

Miss Martins, who is an assistant in the Head Street studio of Mr. William Gill at Colchester, has apparently made good use of her time under its proprietor, and has succeeded in producing some very charming figure work, which, we understand, will be submitted to the jury at the New Gallery.

* * * *

Mr. H. R. Campion is sending two pictures to the Loan Collection, and three to the R.P.S. exhibition. Two of these latter are architectural subjects, both in Ely Cathedral, and the third is a portrait *en plein air*.

* * * *

Mr. Walter Bennington and Mr. J. M. C. Grove are sending to the Salon only, while Mr. T. F. Brogden, Mr. W. A. Stewart, and Mr. J. S. Lamb will submit prints to the committees of both.

* * * *

Amongst those who are sending to the Royal Society's exhibition only are Mr. Henry Stuart, Mr. H. T. Malby, Mr. W. J. Croall, Dr. Graves, Miss Boden, Mr. F. E. Marks, and Mr. L. H. Keller.

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We understand that it is very doubtful at the time of going to press whether Mr. Steiglitz and Mr. Clarence H. White will be represented at either exhibition this year.

* * * *

Business has occupied Mr. Gash very considerably during the past twelve months, and although he figures on the Committee of Selection at the Royal, at the time of going to press it was still doubtful whether he would have any work ready for exhibition there.

* * * *

We have recently had the opportunity of seeing two very fine carbon prints of Highland subjects which Colonel Noverre had prepared for sending to the Salon.

* * * *

Mr. S. L. Willard, of Chicago, is amongst the American exhibitors who will be sending gum-bichromate and platinum prints to the Salon.

Mr. Alfred Stieglitz writes to say that many members of the Photo-Secession have been invited to contribute to the Loan Collection, and, as a body, have been asked to make up a collection. This latter invitation could not be accepted, mainly because insufficient time had been allowed to get a representative collection together. In some instances the individual invitations may be accepted, though the indications are against this.

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Mr. W. Claydon is submitting four pictures to the Selection Committee of the Royal Exhibition and seven to the Salon.

* * * *

Mr. J. Page Croft has not done much photography of late, but hopes to submit a few frames to the Salon. He does not propose sending to the Royal this year, as he feels that the R.P.S. is not in sympathy with the particular kind of work in which he is chiefly interested.

* * * *

Those of our readers who remember Mr. Meredith Janvier's work at last year's Salon may be interested to know that he recently forsook his calling as a lawyer to take up advanced photographic portraiture, working, so far, only for people he knows by sight. Before entering on this work, Mr. Janvier devoted the whole of his spare time for three years to studying under the painter Irving Ward, and another three years to the study of photography under Osborne Yellott. He has also attended lectures at the Columbia University on "Interpretation and Criticism," by Dr. Alfred Vance Churchill, and hopes to spend some time in London for further study shortly. Mr. Janvier is to be found at his studio, 230, North Charles Street, Baltimore, daily from 11 a.m. to 3 p.m.

* * * *

Two pictures by Mr. Gear will be sent in to the invitation section of the Royal Photographic Society. We understand also that a couple of examples of his newer work have gone before the hanging committee of the R.P.S., both showing greater breadth than he usually makes use of. One of these is a figure study—a new departure for Mr. Gear.

* * * *

The decoration and hanging at the Salon, as last year, will be entirely in the hands of one of its members, viz., Mr. Frederick H. Evans, who will again adopt the scheme he then designed and carried out so successfully.

* * * *

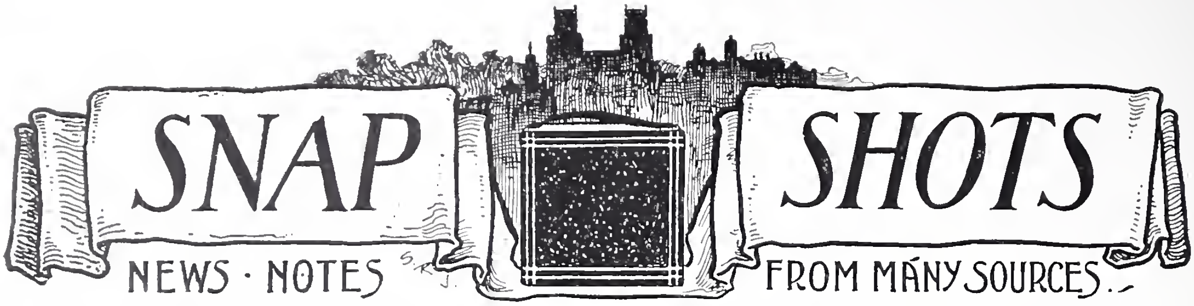
We have had the opportunity of seeing some characteristic work from the studio of Mr. William Gill, of Colchester. It was on its way to the Royal Photographic Society.

* * * *

"Off the Dutch Coast," a very successful picture, by Mr. S. L. Coulthurst, which our readers will doubtless remember, is to be included in the Loan Collection of the R.P.S. Mr. Coulthurst is one of those workers whose business and other avocations have prevented him from getting any new work ready for exhibition.

FORTHCOMING EXHIBITIONS

SOCIETY.	OPENS.	ENTRIES CLOSE.	SECRETARY.
Watford C.C.	October 7	September 23	F. Roberts, Winslade, Cassio Road, Watford.
San Francisco Salon	October 8	September 15	Committee, 819, Market Street, San Francisco.
Rotherham P.S.	October 14	October 5	H. C. Hemmingway, Tooker Road, Rotherham.
Coatbridge P.S.	October 17	September 28	The Secretary, Ailsa Cottage, Coatbridge, N.B.
Isle of Wight P.S.	October 21	October 13	J. H. Burgess, 53, Pyle Street, Newport, Isle of Wight.
Belfast Y.M.C.A.	October 28	October 14	D. J. Hogg, 3, Trinity Street, Belfast.
Frome M.I.	November 5	October 24	Bernard J. Mitchell, 3, Willow Vale, Frome, Somerset.
Hackney P.S.	November 11	October 26	Walter Selfe, 70, Paragon Road, Hackney, N.E.
Braintree and B.C.C.	—	October 30	W. P. Dreaper, Coggeshall Road, Braintree
Sheffield P.S	November 17	November 3	J. W Charlesworth, 1, Joshua Road, Sheffield.
Sunderland P.S.	November 18	November 2	W. E. Kieffer, 1, Stirling Street, Sunderland.
Southsea P.S.	November 18		F. J. Mortimer, Pembroke Road, Portsmouth.
Edinburgh P.S.	November 21	November 7	J. S. McCulloch, W.S., 3a, North David Street, Edinburgh.
Hove P.S.	December 2	November 23	A. R. Sargeant, 55, The Drive, Hove.
Southampton P.S.	December 11	December 2	S. G. Kimber, Oakdene, Highfields, Southampton.
Chicago S.A.P.	December 29	December 15	Society of Amateur Photographers, The Art Institute, Chicago.
South London P.S.	March 5	February 20	W. C. Marshall, 41, Glendon Road, Lee, S.E.



SNAP SHOTS

NEWS · NOTES FROM MANY SOURCES

A COMPETITION IN PORTRAITURE AND FIGURE STUDIES was held at the Southampton Camera Club on the 31st ult. The club certificate of merit was awarded to Mr. M. O'Connor.

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THE POCKET PHOTOGRAPHY COMPANY, LTD., of 56, Gracechurch Street, E.C., inform us that they are still somewhat in arrears with supplies of the pocket dark-room, but hope shortly to be able to keep pace with the demand.

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THE THORNTON-PICKARD PRIZE COMPETITION, the company ask us to remind our readers, closes on October 1st. Prospectus and entry form will be sent to anyone desiring the same and applying to the company at Altrincham.

× × × ×

EASTMAN KODAK COMPANY OF NEW JERSEY. A dividend of one and a half per cent. (six per cent. per annum) upon preferred and of two and a half (ten per cent. per annum) upon the common stock have been declared payable on October 1st, 1903, to stockholders of record at the close of business on the 31st August. The transfer books of the company are closed from the 31st August to 30th September.

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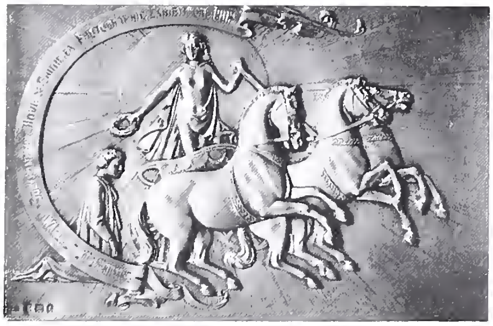
A COMPLAINT has been raised against British photographic societies that their awards are mainly limited to the same prosaic medal. This cannot be said of the three southern societies of Southsea, Hove, and Southampton, who are offering plaques, a photograph of which we reproduce below, the graceful design of which is due to Mr. F. J. Mortimer, of the Southsea Society. Each plaque will bear the name of the particular society granting it, which name will be on the scroll, while the particulars of the award will be placed in a wreath on the back. Silver and bronze plaques will be awarded in each class, and a gold plaque for the best picture in the open classes of each exhibition. In addition, a large silver plaque of the same design (about half-plate size) will be awarded by all three societies jointly to the exhibitor in the open classes at all three exhibitions whose work will be judged of highest merit.



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THIRTY-THREE ITEMS were on the list of lectures, demonstrations, etc., brought before the council of the Scottish Photographic Federation at its meeting last week. The Federation lantern slide competition rules are now approved. Entries close on 15th of January next.

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METOQUINONE, as we announced last week, has been the name used for some years by the Vanguard Manufacturing Company for their ready made developer. We now hear that Messrs. Lumière and Seyewetz propose that their new compound salt of hydrokinone and metol shall be known as "Quinomet."

THE CATFORD AND FOREST HILL Photographic Society made a departure at its last outing by paying a visit to the Crystal Palace gasworks, where the manufacture of gas from retort house to gasometer was fully explained, and many of the incidents photographed. The "Iron Man" drawing and charging the retorts, we are told, proved a rather difficult subject on account of the heat and smoke. Several members mounted to the top of the largest gas holder to secure sunset effects.

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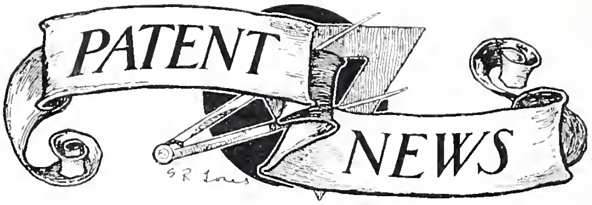
CARBON PRINTING was the subject of the last free lecture given on September 1st at the Brentford Photographic Society. Mr. J. H. Haden developed a large carbon print, and Mr. F. H. Read showed how to sensitise tissue. During the discussion it was pointed out that a carbon print printed to about one third the proper depth and then placed with moist blotting paper in an oven at about 112° Fahr. gave in about five minutes time a fully printed result.



PATENT NEWS

The following specifications of patents relating to photography have been published, and copies may be purchased at an uniform price of 8d., at the Patent Office, Sale Branch, 25, Southampton Buildings, London, W.C. The price of the specifications includes postage to any part of the United Kingdom. The additional postage to foreign countries is usually ½d. per specification. Postage stamps must not be sent on payment of any amount exceeding 11d. In ordering the name of the patentee and both the number and year of the patent must be given.

1903.

9,629.—Wertheimer. Apparatus for viewing and projecting stereograms.

CORRESPONDENCE.

THE SALON AND THE R.P.S. LOAN COLLECTION.

SIR,—Mr. H. W. Bennett, in your issue of last week, writes as follows:

"In regard to their exhibition he," Mr. Evans, "tells us that they always cordially invite outsiders to send work in, but he omits to add that only about *one per cent.* (the italics are Mr. Bennett's) of the work sent in response to this invitation ever finds its way into the exhibition, judging from the figures published each year."

Will Mr. Bennett kindly enlighten me on the matter of these "figures published each year"? Where are they published, and by whose authority?

In fairness to Mr. Evans and the members of the Linked Ring I will ask your kind permission to state that, taking the last two exhibitions of the Photographic Salon as examples, the facts are as follows:

In 1901 the outsiders were represented by 124 pictures, and the members of the Linked Ring by 160. In 1902 we find members contributed 137 as against 150 by outsiders! Of the actual work sent in by non-members about fourteen per cent. was accepted in 1901, and fifteen per cent. in 1902.

Is it a mistake of Mr. Bennett's, or on the part of the author of these "figures published"? Yours, etc.,

REGINALD CRAIGIE,
Hon. Sec. Photographic Salon.

A number of letters and "snap shots" are unavoidably held over.

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NOTICE TO CORRESPONDENTS.

All letters, advertisements, etc., must reach the office on Friday morning to ensure being dealt with in the issue for the next week. In cases of great urgency, letters delivered up to the first post on Tuesday morning may be in time to receive attention, but this cannot be guaranteed.

Communications for the Editor should be addressed, The Editor of *Photography*, 3, St. Bride Street, London, E.C.

In all publishing matters, letters, orders, etc., should be addressed, Iliffe & Sons Limited, 3, St. Bride Street, London, E.C.

Advertisement copy and orders, and these only, should be sent to the printing works. They should be addressed Iliffe & Sons Limited, Coventry.

LEADER

The Current Interest.

The thoughts of picture-making photographers are now concentrated upon the two exhibitions, in which the fate of their year's work is under judgment by the selecting committees. But these form a small and comparatively insignificant proportion of workers, and for one who sends his photographs to Pall Mall or Piccadilly there are fifty who have no ambition to do so, and whose aims lie in quite a different direction. The camera by them is employed mainly as a recorder, as affording a gentle and attractive occupation for the holiday, and as yielding results which may serve eventually to recall a pleasant past. Many of these at this time of year are more concerned in the conversion of a collection of exposed plates into satisfactory negatives than in the displays of the Royal or of the Linked Ring. It is for this section of the photographic community that we write what follows.

In developing a large number of negatives at one time there are a number of little expedients that can be employed to render the work easier and the results more uniform. As a preliminary caution we may say that under no circumstances should such an occasion be made the opportunity for experiment. Such a remark may seem to many to be quite out of place, yet when we say that we have often heard of a new developer being tried or some other unaccustomed device adopted for the first time when the holiday pictures are being taken in hand it will be seen that the advice may to some be seasonable. If experiments are to be made or new methods of work adopted it is a false economy, and it is better far, although all do not seem to think so, to make exposures specially for such a purpose than to use plates which have been employed to take subjects the photographs of which one wants to keep.

One of the smaller devices for saving trouble when a large number of plates have to be developed is to mix up in bulk the developer for use. The general course is to keep it in two or three strong stock solutions, and to take a little from each of these and dilute it duly when a plate has to be developed. But when many are to be done, even if each plate is going to be developed separately, it is better to mix up at one time all the actual developer that is to be used at once. Not only is it a saving of time, but it is easier to ensure accuracy when a large bulk is made up than a small one, and there is less risk of slight variations from plate to plate, which, while they may not affect the quality of the negative if left to themselves, may mislead the photographer into thinking that it is over or under-exposed as the case may be by the rate at which the image makes its appearance.

The stage at which to remove the backing seems to trouble some, although it need not. One thing should never be attempted, and that is to get rid of it before development. If this is done there is always a risk of injuring the film, unless both sides of the plate are wetted, and where this is the case air bells are almost sure to occur in development. Our own practice is to complete development, then to pour the developer off and fill the dish up with water, and, holding the negative under the tap film side upwards, to rub the underneath side gently with a wet rag until all the backing is off, and then to slip the plate into the hypo. A word of caution is necessary here also against allowing too long a time to elapse between developing and putting into the hypo. Development is not stopped by pouring off the developer and rinsing the plate, but will be found to go on if not as quickly as before at least fast enough for the plate to gain greatly in density in a few minutes. For this reason there should be no more delay than can be helped after developing and before fixing.

For washing negatives there is no better device than the grooved porcelain trough, but that pattern is to be preferred that has an opening at the bottom closed by a cork rather than that with the syphon. A syphon washer is seldom to be met with that will work well without attention, while it never does more than *almost* empty the trough. With a corked opening the water may be completely drained off each time, to the great acceleration of the washing.

Other points occur to us on this subject, but we must perforce defer their consideration until later.

Spirit of the Times

DOCTORING PRESS PHOTOGRAPHS.

The Turkish Embassy has been protesting against the publication in illustrated weekly papers of an "atrocity" illustration, said to be drawn from a photograph. It appears, according to a representative of the Embassy in Paris, that a false photograph had been concocted having as its basis one which showed two Bulgarian brigands who had been executed by Turks. Without going further into the merits of this particular case, of which we can only say what has just been given, it is just as well that the general public should know, what photographers know well enough already, that while an honest straightforward photograph is as good and impartial evidence as can well be obtained, a photograph may lie as much as any drawing ever designed, while its reputation for truthfulness and accuracy give to its falsehoods a credibility that does not attach to the results of pencil or brush. While upon this topic it is noteworthy that these least defensible departures from truth are most frequently put forward by those whose motives are of the best; and it shows the human mind in its most paradoxical attitude, when we observe that it is by the sympathisers with the unhappy victims of war in Cuba and the Transvaal, with the sufferers from the ferocity of the Turkish soldier and the Indian famine, that these ingenious, if immoral, fabrications are put forward. They will not be without their justification, however, if they draw attention to the fact that photography can and does lie when the photographer is so disposed, and help to banish that belief in the absolute veracity of the photograph which we, as photographers, recognise with sorrow is at times a delusion and a snare.

* * *

SOUTH AFRICA AND FORMOSA. Now that the country is settling down after its troubles of the last three or four years, the importance of South Africa as a customer for British products is growing rapidly. When the war began our letter-box was constantly showing us how many of the readers of *Photography* it had been the means of sending to the Cape, and now that it is over every mail brings us evidence that our readers in South Africa are numerous and increasing. Photographic manufacturers would do well to cultivate as much as they can so promising a market. Some of them are doing so, we know, but there are others who have not yet realised its potentialities. It is a land of high prices, and at the present moment of largely undeveloped markets. Its British population is growing rapidly, and the interest in photographic matters is shown by the number of active photographic societies and camera clubs that have already been established. Another part of the world from which the Consul reports a certain limited demand for photographic goods is the island of Formosa—for some time the residence of our editorial contributor the late W. K. Burton, who was the Sanitary Commissioner of the Japanese Government there.

* * *

ORGANISTS AND PHOTOGRAPHERS. An idea is given in the current *Western Camera Notes* which may be of service to some of our readers who are not only photographers but also interested in choir work. A writer therein tells how a friend of his had found a class of boys very backward in taking part in the music he was arranging. Being both a photographer and a lantern slide maker, it occurred to him one day to make lantern slides of the music which he intended to use. Then the room being darkened and the lantern brought into requisition, most, if not all, timidity vanished. Apart from the evidence the story gives of the existence of an unsuspected quality in the American boy, it is interesting as being one more example of the bracketing together of photography and music. The number of amateur organists who are photographers, or of amateur photographers who are organists, has always been notable to us; offhand we can name quite a long list. There would seem to be some subtle connection between the two, which might perhaps account for the fondness photographers have for talking of "harmony" and "tone." One of our photographer-organist friends told us the other day of an occasion in which he brought his camera to help his music. He was prowling round an old church recently, and found a piece of music on the organ which took his fancy. He looked at the publisher's name, it was that of a firm that had ceased to exist, so he told us that he fastened up the music there in the loft, exposed a quarter-plate on it with his hand camera, and has played it several times in church since from a bromide enlargement from the negative then and there obtained.

* * *

WET SUMMER EFFECTS. The heavy and continued rain that has marred the summer and drenched the holiday-makers, is in its results a not altogether unmixed evil when viewed from the standpoint of the picture-maker. The woodlands, that would be in the ordinary way already showing signs of the fervid summer heat, have still their foliage full of sap. In every respect the season is late. The water courses that in the month of August present the appearance of dry ditches have still their channels full as they would be in spring, with the important exception that the surroundings are those of summer. In the low-lying, well-watered lands there is a wealth of verdure. The grey green foliage of the willows dipping in the streams and collecting coronals of foam around the leaves offer tempting studies to the photographer, while the fringe of rushes is sufficiently high and dense to form effective foregrounds. Scarcely a day passes in which splendid cloud formations are not seen, though it must be confessed that these are mainly of the cumulus type, and that sunset effects of a type suitable for picture-making have been less common. One result of the masses of white clouds has been that, while there have been many dull days, the light in the brighter intervals has been very intense, and being reflected from the clouds and being diffused into the shadows has made possible very brief exposures. Should we be favoured with an Indian summer, those who take their holidays late will reap the advantage of the wet summer in the way of effects not often to be hoped for in this country in the autumn months.

* * *

PHOTOTEGY. This is the name recently given by the *Photo-Revue* to a method of photographic reproduction, which depends on the etching power of the now so much utilised hydrogen peroxide. One treatment with light only is necessary, *i.e.*, for taking the negative. The printing requires no light, and in reality is a form of the collotype process. The novelty of this "new method," so far as we can make out, is the use of a compound which is not actually hydrogen peroxide, but which our contemporary calls "le bioxhydre," apparently an oxide of hydrogen intermediate between water and the peroxide. We are not let into the secret of this compound, however, and must consequently content ourselves with the instructions for working the process. A plate after exposure is developed through to the back with ferrous-oxalate, well washed without any fixing, and then immersed in the "bioxhydre" solution; the last operation may be carried out in daylight, and is continued until the image is bleached out. A second careful washing leaves the film as a gelatine relief of the object photographed, which must then be soaked in weak chrome alum solution and dried. Suppose that now we want a pink photograph. We must rub the film over with powdered talc and place it in a solution of erythrosine, or apply the dye to it with a brush. Excess of colour is removed by washing the film until the whites are clean, and a sheet of sized paper, also talced to prevent adhesion, is put into water with it, and the two brought together under water, as in the carbon process. They are now removed, squeegeed, and peeled apart, when the paper will have the pink impression on it, and the dyed relief negative will still have retained sufficient dye for several more printings.

* * *

DEPTH OF TONE IN BACKGROUNDS.

Mr. David Blount in our pages recently gave examples which showed how the depth of tone in a background affected the resulting portrait. The matter is one which must at one time or another have received the attention of every thoughtful portraitist, one of whom gives his experiences in the pages of *Camera Craft*. He suggests that, for the purpose of studying the influence of the background, it is only necessary to take into consideration three simple cases—a dark, a light, and an intermediate background—and with these a few experiments will demonstrate that the selection made for any particular subject will in no small measure influence the resulting portrait. With a sitter in dark clothing, the darker background will strongly concentrate the interest on the face, and by comparison with them will reduce the apparent strength of the shadows therein. With light drapery the effect is exactly the opposite, the drapery drawing attention from the face, and by its suggested lightness increasing the apparent depth of the shadows. A medium tint in the background has the effect of making the interest more general, and, being nearer the shade of the darker portions of the face, it tends to reduce the contrasts. A light or white background emphasises the face with white draperies, and increases the apparent contrasts. With dark draperies, the effect is to make the face secondary in interest and at the same time apparently to flatten the lighting. From this it can be seen that where a harsh lighting or strong features are to be dealt with, the selection of a suitable background may mean much, as, in fact, it does in most cases of portraiture where a result anything beyond the ordinary is that which is aimed at by the photographer.

The Week's Meetings

THURSDAY, SEPTEMBER 10TH.

Handsworth. The Development of a Negative. P. Whitehouse.

FRIDAY, SEPTEMBER 11TH.

East Liverpool. The Photographic Lens.

SATURDAY, SEPTEMBER 12TH.

EXCURSIONS.

North Middlesex. Monkwood.
Hull. Newbald and Houghton Woods.
Halifax. Norwood Green.
Bradford. Adel.
Walthamstow. Loughton.
Dewsbury. Adel.
Glasgow Corporation Cadder (Bishopbriggs).
West London. Thames.
Woolwich. Charlton for Hanging Wood, etc.
Manchester. Marple.
Paisley. Linwood Moss.
Newton Heath. Bramhall.
South London. Whipp's Cross.
Balham. Carshalton.
Ashton-under-Lyne. Shrewsbury.

MONDAY, SEPTEMBER 14TH

Attercliffe. Negatives and Prints. Sparham Camp.
Southampton C.C. The Platinotype Process. G. R. Johnson.

TUESDAY, SEPTEMBER 15TH.

Blairgowrie and District. The Ozotype Process.
Keighley. Annual Meeting.
Nelson. Lantern Slide Competition.

TUESDAY, SEPTEMBER 15TH (continued).

Hackney. Members' Lantern Slides.
Croydon Nat. Exhibition of Members' Work.
Manchester. Members' Lantern Slides.

WEDNESDAY, SEPTEMBER 16TH.

North Middlesex. Lantern Slides. L. J. Glendening.
Boro' Poly. Monthly Print Competition.
Southampton. Excursion to Titchfield.
Isle of Wight. Enlarged Negatives. W. T. Mahy.
Balham. On Developers. A. M. Partridge.

THURSDAY, SEPTEMBER 17TH.

Isle of Wight. Excursion to Wootton.
Handsworth. Intensification and Reduction. W. J. Foster.

FRIDAY, SEPTEMBER 18TH.

Croydon Nat. Discussion of Excursion Negatives.
Manchester A.P.S. Assistance in Isochromatic and Colour Photography.

SATURDAY, SEPTEMBER 19TH

Manchester A.P.S. Portraiture in the Studio. T. L. Cooper.

EXCURSIONS.

Boro. Poly. Wimbledon Common.
Ilford. Epping Forest.
Bristol. Henbury.
Glasgow Southern. Calderwood Glen.
Paisley. The Glen.
Newton Heath. Booth Hall.
Balham. Hampstead Heath.

Societies will have their meetings announced here if the syllabus is sent to us at the beginning of the Session, or from time to time.

Vidil Films. The Latest Novelty in Roll Films.

By Hugo Muller. Special to "Photography."

We are indebted to our correspondent, Mr. Hugo Muller, for the following account of an ingenious adaptation of cut films to the roll film method of loading, invented by Fritzsche, of Leipzic, permitting of focussing between the exposures, and of the ready detachment of any one film for development without affecting the others.

THE rollable celluloid film is said to have been invented in 1887, but it is only in later years that it has come into general use. Even now it has one great drawback—it is not possible, when using it in the form to which we are accustomed, to focus each picture upon the screen. The photographer must perforce either trust to his skill in pointing the camera in the right direction or be guided in the composition of the picture by the minute image in the view finder, unless he carries the film in a separate roll holder.

In obtaining fine focus he must be guided by his skill in estimating distances, and by the use of the focussing scale. In landscape work these methods may prove sufficient, and in photographing rapidly moving objects no other is applicable. This, however, would restrict the use of roll films to hand camera work, for in portraiture and many other subjects, when the camera must be placed near to the sitter or the object that is to be photographed, the use of a focussing screen becomes a necessity.

Not only is much finer focussing required in such cases than can be obtained by estimation of distance and the use of a focussing scale, but inspection of the image on the screen is a valuable aid in the composition and arrangement of the picture. Moreover, when once the spool for six or twelve exposures has been inserted in the camera and an exposure made, development must either be delayed till the remaining sections have been exposed, or a portion of the film must be sacrificed.

It is the recognition of this fact which led the Kodak Co. to adopt that most convenient plan of the "double-two" spools, and by so doing to surmount what has otherwise always been a hindrance to the general use of roll film.

The Vidil films, the subject of this article, get over this difficulty in a very clever and altogether original manner. The invention was made by Fritzsche, of Leipzic, who has devised a system by which the image may be focussed in precisely the same way as with plates carried in a camera fitted with a focussing screen, and each section as it is exposed, or at any time after, may be removed in the dark room, leaving the remainder of the spool in position for further work.

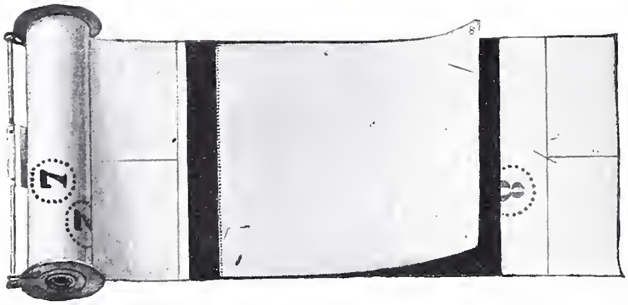


Fig. 1. Focussing screen. Film. Focussing screen

The means he has adopted is to attach a number of cut films to a strip of translucent parchmentised paper at regular intervals, but separated by gaps longer than the length of the cut films. Each film is, in addition, backed by opaque paper, and is attached so slightly that it may be easily removed (fig. 1). When the spool is fitted into the camera and the end of the protecting paper is wound off, first a portion of the translucent paper and then a film is brought into position. The paper acts as a focussing screen, and is in correct register with the film.

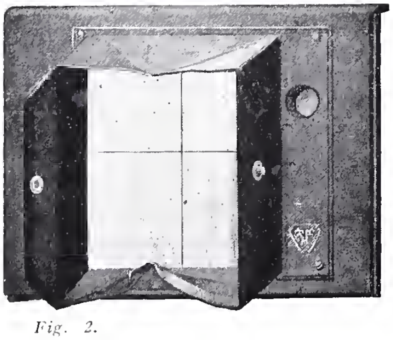


Fig. 2.

Before focussing can be done, however, the camera must have a door of some kind fitted at the back. The most convenient arrangement is to have a portion of the back of the camera glazed with ruby glass covered over with an opaque cover that may be raised to form a hood, as is shown in fig. 2.

When the part of the roll which acts as the focussing screen is in position for viewing the image the adjacent films are rolled up on the spools on either side, and are perfectly protected by the black backing, which extends some little distance on each side. It is, therefore, quite possible to carry out between the exposures any operation that is possible with a camera carrying plates. The lens may be removed for cleansing, and another of different focus may be substituted for it, or should some hitch occur with the shutter, a not altogether unknown accident, it may be put right without the loss of a film. Consideration of these points will show that the new film may be found to be as useful in hand camera work as in the other classes of work previously referred to.

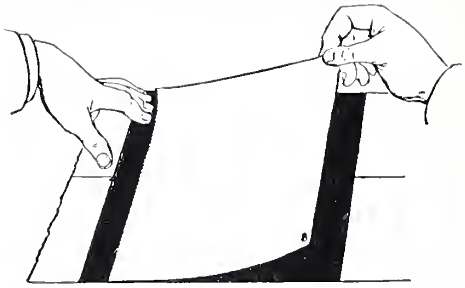


Fig. 3.

The removal of single sections from the spool is shown in fig. 3. It will be noted that there is a small figure impressed on one corner of the film, so that if the whole of the sections have been removed for separate development, any one can be readily identified. The numbers on the covering paper that are seen through the small ruby window and used to assist in winding the film into correct position are printed in Indian ink, and are said to have no injurious effect upon the emulsion.

The vegetable parchment upon which the films are fixed is very thin and transparent, and though more than double the length of an ordinary spool by reason of the additional spaces for focussing upon, rolls up very closely. The spools are fitted with a spring trigger, shown in fig. 4, which controls the film and checks it from unwinding further than may be desired. In fitting the spool into the camera, care has to be taken to carry the end of the covering paper evenly across, and to enter it correctly on the receiving spool, or in winding the film sections may be injured. The sensitive film ought not to be drawn into position until the bellows (if a camera fitted with bellows is being used) has been extended, and in no case should the camera be extended smartly, as this tends to interfere with the smooth running of the film.

Vidil films are made either for use in roll holders or in cartridges for daylight loading cameras. Those made for the roll holders are not provided with the focussing spaces, but the covering paper carries twelve film sections perforated and numbered. Any section may thus be removed without injury to those remaining.

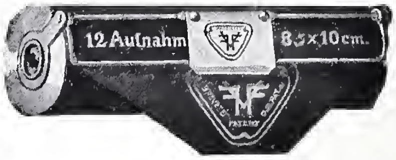


Fig. 4.

Panchromatic films are already on the German market for use in three-colour photography. Each spool carries six films, being two for each of the three colour impressions.

The colour filters necessary for the selection of the blue, yellow, and red rays are placed directly in front of the films, and are rolled up together with them. From the three negatives made on the films, positives may be made by any of the usual processes. The panchromatic films are manufactured by Otto Perutz, of Munich, and by Messrs. Lumière. By the use of these films, three-colour photography is said to be much facilitated, no costly apparatus being necessary.

THE VIDIL FILMS.

By employing a special camera, plates may be exposed even while it is loaded with a spool of film. The plates are carried in thin slides, and after the image has been focussed on the paper screen, the slide is inserted through a slot in the top of the camera and is placed in front of the screen. Register is obtained by sliding forward the lens in the same way as in the folding cameras made to carry both plates and films. The slot through which the slide is dropped is fitted with a light trap.

Unal, a New Form of Rodinal.

RODINAL has long held a place in the dark room as a developer always ready for use, and one that may be relied upon in an emergency. The fact that it is in a liquid form, simply requiring dilution for use, is one of its advantages when the photographer is in his own premises, but may possibly lead to disaster if it is carried in the portmanteau on tour.

To guard against this possible mischance the manufacturers have carried out a series of experiments, and have now produced it in the dry form, containing all the necessary ingredients, under the name of "Unal." It is issued in bottles containing from thirty-one grains up to about three and a half ounces. For use the contents of a bottle are dissolved in water and diluted to a strength suitable to the work in hand. If dissolved in the amount of water stated on the bottle its strength equals that of rodinal diluted with twenty-five parts of water; if in less, it will presumably keep as satisfactorily as rodinal does.

For correctly-exposed negatives this normal strength of solution may be used, but for transparencies, lantern slides, and bromide paper, it should be diluted with from half to an equal bulk of water. Instructions are given for modifications to suit under and over exposure. As, however, our readers are aware, we have little faith in these variations, believing that results equally good can be obtained with greater certainty by regulating the time of development.

As Unal possesses all the merits of rodinal, and may be kept either in the liquid or the dry state, as may best suit the convenienece of the user, it will probably become even more popular than in the earlier form, to which we have been so long accustomed. The small tubes containing thirty-one grains are sold at threepence, but of course it will be found more economical to purchase it in larger quantities. The British agents for unal, as for rodinal, are Messrs. Chas. Zimmermann and Co., 9 and 10, St. Mary-at-Hill.

Orthochrom T.—A New Colour Sensitiser.

POPULAR as orthochromatic plates are, and widely recognised as are the advantages they confer, there are few photographers, we suppose, who themselves sensitise plates for colour. Numerous formulæ for this work have appeared in the past, and are daily being added to, but there is always more or less difficulty in getting little-called-for dyes and some uncertainty in the mind of the photographer who is unaccustomed to this class of work, whether the difficulties he meets with are due to errors on his own part or to shortcomings in the dye supplied to him.

Orthochrom T, a new sensitising dye, which gives to the plate a high sensitiveness for yellow, orange, and red, has been placed upon the market by Messrs. Meister, Lucius, and Brüning, for whom Messrs. Fuerst Bros., of 17, Philpot Lane, E.C., are the agents. This dye is supplied either in the dry or the liquid form, with precise instructions for its use.

It is claimed for the dye that it does not impair the sensitiveness of the plate to white light, that the plates sensitised with it do not fog, and that they will keep in good condition for a very long time. The first two claims appear to be corroborated by the trials we have made; the last we can as yet say nothing about. The instructions given are not difficult to follow if the photographer is provided with a light-tight drying cupboard (through which a current of pure dry air can be drawn), or, if not, he can improvise something of the sort.

If the dye is bought in the dry state seventeen grains are to be dissolved in four ounces of warm alcohol (not methylated spirit), and when solution is complete sixteen ounces more of alcohol and twenty ounces of distilled water are to be added. This solution is said to keep indefinitely in brown bottles. For dyeing an emulsion, from one hundred to one hundred and fifty minims of the solution are to be added to thirty ounces of the emulsion.

To sensitise dry plates, from fifty to seventy minims of the solution are diluted with eight ounces of distilled water and thirty-five minims of ammonia added. In this the plate is bathed for two minutes, and then washed in running water for another two minutes, after which it must be dried as quickly as possible. It is of course manifestly desirable that the operations should be carried out in absolute darkness.

The loading of the slide and development should be done by a very feeble red light. Orange or yellow light should not be used, though a shade of green might be found that would be permissible, as we find on trial by exposure to candle light through the Chapman-Jones plate tester that while the blue, yellow, and red patches give densities that are nearly equal, there is a distinct falling off in the green, though this would be remedied by the use of a suitable filter.

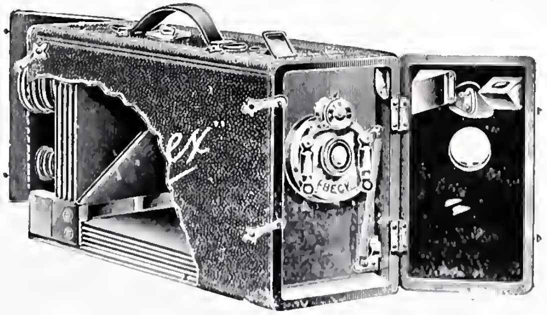
The simplicity of the operations involved may encourage some who have hitherto considered the work outside their sphere to make experiments in this direction.

The Focussing Cornex Magazine Hand Camera.

IN placing the Focussing Cornex magazine hand camera before the public, Messrs. R. and J. Beck do not profess to have introduced into it any points of great novelty, but they have set themselves to improve certain features which appeared to be in need of consideration. Amongst these improvements is the substitution of a cam movement in place of the rack and pinion motion for securing fine focus. Messrs. Becks' experience, obtained in the manufacture of microscopes, has shown them that this latter movement often lacks accuracy.

The cam adjustment works with perfect sweetness and a total absence of backlash that ensures the lens being free from motion when set for objects at any distance. The setting of the scale, to which the attention it requires is not always given, is accomplished by means of a microscope in the same manner in which the same firm's Frena cameras are set to scale. The certainty the photographer may feel in using one of these cameras that the lens is working true to the scale should relieve him of anxiety on that score.

The Cornex index supplied to the cameras is of additional service in this respect Although this index has now been in use for some months, its great advantages may not be known to all our readers. It takes the form of a plate of

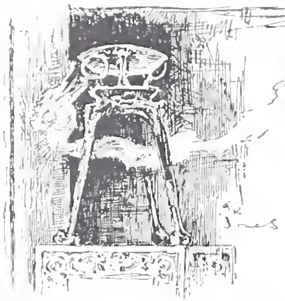


THE FOCUSSING CORNEX.

transparent celluloid, supported over the scale and bearing on it guiding lines. When the lens is set for any distance—say fifteen feet—the number on the scale is immediately under the arrow on the index. A number of cross lines then indicate the distances beyond and in front of fifteen feet, at which objects will be in reasonable focus. In the case quoted, and using f/16, objects at ten feet and thirty feet would be sufficiently sharp for pictorial purposes. The device supplies just the information which the inexperienced worker is frequently so much in need of, and which the expert arrives at by guess work based on long experience, or by reference to a table of distances should it be at hand, or in its absence by a troublesome calculation.

The camera is provided in Model D, which is sold at three guineas, with a Beck rectilinear lens fitted with a Bausch and Lomb Unicum shutter, giving exposures from one hundredth of a second to one second, or time exposures of any duration. The shutter is set by turning a milled head on the front of the camera, and released by pressing a button at the side. Two brilliant view-finders, in which the image is stationary, are provided, and the camera is bushed on the bottom and the side for the tripod screw.

Twelve quarter-plates are held in sheaths that are released by pressure upon a projecting handle at the top of the camera. Those that have been exposed may be removed from the well without interfering with those still to be used. The camera may be had fitted with lenses of all grades. The Model G is fitted with a shutter and lens listed at £6 6s., and sells at £8 8s. The most popular, however, will no doubt be the Model D described above, and selling at £3 3s., as it is a wonderfully efficient instrument capable of doing excellent work.



CHEMICAL & PHYSICAL NEWS

A weekly summary of those sciences upon which all photographic processes are based.

Specially compiled for Photography by Prof Fergus J McInnes

PHOSPHORESCENCE IN MINERALS.

THE continued emission of light by a substance (not incandescent) produced especially after heating, exposure to light, or to the electric current, is called phosphorescence, and is possessed by many mineral substances. Fluor spar, for instance, is highly phosphorescent after being exposed to a temperature of 300° F. The several varieties of fluor spar, observes the *Mining and Scientific Press*, emit light of various colours; chlorophane, one variety, emits an emerald green light, others purple, blue, or reddish light. The phosphorescence may be observed in a dark place after exposure to heat below redness. Some varieties of white marble emit a yellowish light on slightly heating. Some minerals, on the other hand, naturally phosphorescent, seem to lose this property after heating, but it is restored by an electric current passed through the calcined mineral. Several varieties of calcite, fluorite, apatite (calcium phosphate), and some species of diamond which are not phosphorescent, become so by the application of electricity. Exposure to the sun's rays often produces a very pronounced phosphorescence in many diamonds. It has been noticed that the exposure of the diamond to the blue rays of the spectrum intensifies the light, whilst exposure to the red rays causes it rapidly to disappear.

PROPERTIES OF NITRIC ACID.

AN interesting article is contributed to the *Chemical Society's Journal* on "Some Physical and Chemical Properties of Nitric Acid,' by Messrs. Victor Herbert Valey and J. J. Manley. Reference is made to a previous communication by Hartley on nitric acid of seventy-eight per cent. to one hundred per cent. strength. Hartley assumes the existence of an orthonitric acid, having the formula $H_3\ NO_4$, and regards the anhydrous acid as having a bimolecular structure $H_2N_2O_6$. Acids of a concentration between seventy-eight and one hundred per cent. are considered to be mixtures of these two compounds, the former of which is considered to be the active agent and the latter inert. The molecular weight of the anhydrous acid has not been determined, but the tendency of hydroxyl compounds to exist in polymeric states supports this view. Unfortunately, the properties of nitric anhydride dissolved in nitric acid have not been investigated. It would be a further point of interest to ascertain if there are certain substances on which nitric acid of above critical concentration has less action than more or less concentrated acids. They add to their observations on the subject that nitric acid of approximately one hundred per cent. concentration nitrated cotton directly without the addition of sulphuric acid, and so far as qualitative experiments went, such cotton was as inflammable as gun cotton made in the ordinary way. Nitric acid of ninety-six per cent. and sulphuric acid of ninety-eight per cent. concentration show definitely marked characteristics analogous, though not in all cases parallel as regards certain properties, more especially density and electric conductivity, also, in the case of the former, in the matter of refractive index

SELF-IGNITERS FOR GAS.

THE remarkable property which platinum possesses when in a fine state of division of causing the union of mixed gas and air, or of hydrogen and oxygen, with the liberation of great heat, is doubtless familiar enough to our readers, and many devices have been placed upon the market to utilise it for gas ignition. Although several other metals are available, they all possess faults. Palladium is the most active of all, and capable of rising to a very high temperature when exposed to a stream of raw gas and air, but it volatilises at a temperature of 1,000° C. Iridium is more refractory than platinum, but is also less efficient, and in time it volatilises from the hottest part of the non-luminous flame. Platinum is, therefore, still the best, provided sufficient quantity is taken and distributed evenly in a properly porous support. Cannoni prepares his active pills by precipitating a solution of a salt of alumina, so that alumina hydrate falls in a gelatinous condition. He then pours off the liquid, dries the residue, and forms it into cylindrical shapes in agate moulds. The pills are next heated in a furnace until all water is driven off, and, before any opportunity of becoming damp occurs, they are put into a ten per cent. solution of platinic chloride in alcohol, remaining therein for a fortnight, until they have absorbed a definite amount of metal. Finally they are ignited in a gas flame. Made in this manner, such igniters retain their activity, even when exposed to a gas flame day and night for ten months, and if kept in air artificially saturated with moisture for three hours they merely become slower in action. If exposed constantly to gas leakage they become choked, but are restored by blowing upon them. After twenty-three hours rest, these igniters fire coal gas in from four to fifteen seconds.

METALLIC CALCIUM.

THE problem which has up to the present stubbornly resisted all attempts at solution, that is, the production of metallic calcium from lime, has at last yielded to the onward march of science. According to the *Scientific American*, this latest triumph was accomplished in the Electro Metallurgic Institute at Aix-la-Chapelle by Professor Borchers and one of his engineering students, Herr Slockerm. The process employed resembles somewhat the method of extracting aluminium from clay. Aluminium, as is well known, is extracted from a molten mixture of cryolite and clay. The process of obtaining calcium is even simpler than that, for only one substance is subject to electrolysis—calcium chloride—which melts at about 800° C. or 1475° F. Certain peculiarities of calcium not possessed by aluminium make special care necessary in arranging the electrodes, and even then many failures occur. Without entering into a history of the process employed by the Professor and his pupil of producing metallic calcium at will both easily and cheaply, we may point out that it is a discovery of the greatest importance to chemistry and to manufacturing industries. It is of course not available for manufacturing vessels, implements, or tools, or, in fact, any metallic object, since it becomes soft as summer butter in the winter time, absorbs oxygen, rapidly becoming coated with calcium hydrate when exposed to the air, and decomposes water. It is in the chemical industries that metallic calcium will find its greatest usefulness, and especially in organic chemistry, where the need for a cheap metal with powerful reducing properties, stronger than aluminium, magnesium, or zinc, and weaker than potassium or sodium, has for a long time been felt. The cost of metallic calcium, £4 10s. per lb., has hitherto precluded its use as a reducer, but by the new process this cost is said to be lowered to the amazingly low rate of about one shilling and tenpence per hundredweight.

MORE RADIATORS.

THE discovery of new rays is still going on, and is beginning to make a considerable demand upon the alphabet. The X rays, followed by the Becquerel rays, have been followed in turn by the subdivision of the rays emanating from radio-active substances into α, β, and γ rays, as well as the radio-active gas to which Prof. Rutherford assigns a molecular weight of about 100. M. Blondlot has now announced a further identification of the N rays, which he detected some time ago in the emanations from certain forms of incandescent burners. He has found them in the radiation from a plate of silver or talc heated to redness in the ordinary circular gas flame. They are invisible, but they can be detected by a small mass of incandescent gas, such as a small gas burner would furnish, and this will brighten up when the N rays impinge upon it. These N rays will penetrate black paper, ebonite, or metals, but produce no effect upon the photographic plate. They can be refracted, reflected, and polarised, and are believed by their discoverer to lie beyond the red end of the spectrum. The constant additions to the list of new forms of radiation demand some form of codification of discovery, or review; if those most interested are to keep in touch with all that other workers are doing in this direction.

A CURIOUS CHANGE.

IF a ball of indiarubber be immersed in liquid air it becomes brittle, and loses all its elasticity, and if dropped on the floor breaks into pieces as would so much glass. On the contrary, a ball of lead acquires elasticity, and will rebound from the floor like a rubber ball in its normal condition.

How to Use Old Velox Paper.

Most of our readers who use Velox papers must at one time or another have been confronted with an opened packet, the remainder in which has been kept until its usefulness is open to doubt. In the following article by Mr. C. F. Stiles, which has just been published in our contemporary, "The Photo Beacon," will be found a method of using it by which good prints can be ensured.

SOME time ago I was presented with a batch of old Velox paper, the greater part of which was rough and special rough, papers to whose use I had been addicted in the past, and I accepted the gift for experimental purposes, the results of which follow:

First, I corresponded with the factory, and was assured the paper had, at least, no commercial value. A test negative of good contrasts was then selected, and the plate was masked so that a white margin would appear on each plate. Taking some fresh paper and a concentrated metol-hydroquinone developer, prints were made until the matted portion was clear white, of course, using as much of a solution of potassium bromide as was found to be necessary. Noting the time of development, the exposure of the old paper was put in hand, with the expected result, a wholesale fogging, even in those parts masked out, which did not receive any light.

As most readers are aware, the gaslight papers in general are made in two speeds. The faster emulsions take longer to develop, but give softer results than the ordinary ones. More bromide is usually necessary with the quick emulsions.

The development of Special Velox is ordinarily finished in thirty to forty seconds. These are facts of experience, and the correct exposure on such emulsions is that which develops fully in such a time, with good blacks and clear whites. Workers in Velox will find this method much preferable to the arbitrary one of so many seconds at such a distance, etc. Prints taking longer to develop are probably under-exposed and *vice versâ*.

Returning to our subject matter, it was clear that the paper must not fog (from the developer alone) inside of forty seconds. A piece of the under-exposed old special rough fogged in twenty seconds and turned greenish black and mottled. More bromide was then added to the developer. The normal developer contained about ten drops of a ten per cent. bromide solution to each ounce. The addition of about five drops per ounce lengthened the time of fogging on the old paper. When thirty-five drops to the ounce were used, fog did not appear for fifty seconds. Exposures were then made with the test negative, and the development was complete in about forty-three seconds. However, the tone was unpleasant, and the bromide was further increased. More was added until the developer contained sixty drops to each ounce, when clean prints resulted with vigorous contrast and an admirable tone.

The developer, it will be noted, contained six times the normal quantity of restrainer. Even better results were had in later experiments by making up a developer with less alkali, which developer is also excellent for plates known to be aged.

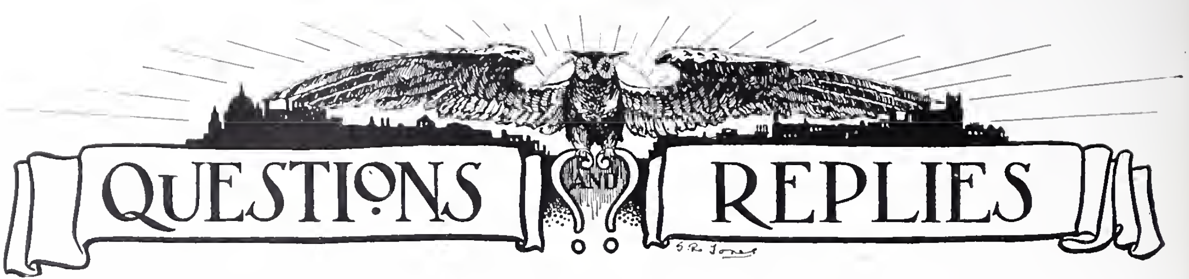
Similar experiments were applied to the rough papers of the regular speed. This class needed less bromide and more exposure to get good prints. Since emulsions vary, it was found necessary to balance the developer for each different emulsion.

Summarising the experiments in the form of directions, I would say with Special Velox, take a strip of the paper and note the first fogging in seconds from immersion in the developer. This should take over forty seconds on emulsions which are fresh. If fog appears in less time, increase the percentage of bromide till the paper will keep clear threequarters of a minute. Next make exposures with the standard test negative until the print comes to full density in less than the fogging time. If development is longer, the whites must, of course, discolour. If the tone is not yet satisfactory a further increase of exposure and bromide may be necessary. For regular emulsions, the same principles apply. Development, however, is more positive. The picture comes quickly to full density and then stops, whereas special emulsions develop more gradually. Fogging ought not to appear in less than thirty seconds on regular carbon, rough, or glossy Velox.

In making the tests with unexposed paper, it is wise to immerse half the strip in the developer. Then, if fogging occurs slightly, it can easily be distinguished against the dry, white end.

The tones on the old paper are very fine. Rich greens and warm blacks were obtained with ease. One must avoid over-exposure, which brings mottled, rusty brown, images. Decided greens may be obtained on special rough, and are excellent on certain subjects, marine, for example.

On some prints I was troubled with "pencil marks," a defect which looks like hairs embedded in the emulsion. Rubbing with methylated spirit and a tuft of cotton removes them, as well as any slight traces of fog.



QUESTIONS AND REPLIES

Readers wishing for information upon any specific point in connection with photographic theory or practice are invited to make use of the "query form," which will be found amongst the advertisements. All enquiries must comply with the conditions stated upon the query form; those which do not do so are neither acknowledged nor answered. All enquiries are answered by post. We cannot undertake to make replies in the paper. We print below from time to time a selection from the queries we receive, and our replies.

IMAGE PARTIALLY OBSCURED BY THE BELLOWS.

I am using an R.R. lens of seven and a quarter inches focus, and I find that when I am taking a full length portrait the ground-glass is so near the lens that the bellows cuts about half an inch off the image. Can I use the back combination of the lens, will it give good definition at f/8, and will the exposure require to be lengthened or shortened?

The bellows may be prevented from cutting off any part of the image by gluing a loop of tape to one of the folds on each side. A piece of elastic fastened to each loop and drawn forward to a pin inserted on each side of the front will draw the bellows forward and keep the path clear for the rays from the lens. In taking large scale portraits there is an advantage in using one combination of the lens, as the camera may be placed farther off and a more pleasing perspective obtained. One combination, however, will not work at as large an aperture as the entire lens. If the latter works at f/8 the same stop used with the single combination will become about f/16 and will require four times the exposure. F/11 will become f/22, f/16 will become f/32, and so on. A single combination of a lens seldom has the same defining and other good qualities as the entire lens, particularly towards the edges of the plate, but for large scale work it will probably be quite as keen as is desirable even at the largest aperture.

REDUCING STRONG CONTRASTS.

I have a negative in which the contrasts are too strong to be printed from. Can I reduce a portion of it without a great risk of failure? I have been advised to rub the film with methylated spirit and then with cuttlefish bone till it is thin enough to print properly.

All reduction methods are risky, and rubbing down with methylated spirit, or with abrasive powder, is especially so. We should advise that, as the negative is a valued one, it should not be tampered with in any way, at least until an attempt has been made to make a better by the following method: A transparency is to be made upon a slow plate, giving such an exposure that the detail in the high lights shall appear in development before the deepest shadows are opaque. There should be full detail visible everywhere, and there should be no parts of the transparency showing as clear glass, except, of course, the edges, which have been protected in the printing frame. Probably two or three attempts will have to be made before this result will be secured.

Having made a perfect positive, a negative must be made from it in the same manner, and this is a comparatively easy matter. The prints from the new negative should be perfect in gradation. If not, then a new negative should be made, increasing or decreasing the exposure as softness or contrast is required.

When success has been obtained, or at any rate the best results of which the method appears to be capable, then an attempt may be made to improve the original negative by chemical means. A two per cent. solution of ammonium persulphate is to be made up, and one or two drops of sulphuric acid added to each ounce. In this the negative, which ought to be perfectly clean on the surface, is immersed. The action may be slow at first, but when it is once started it proceeds somewhat rapidly, and the negative should be closely watched against over-reduction.

The dish should be rocked to avoid irregular action, and when reduction has proceeded far enough, the negative is to be transferred without previous washing to a five per cent. solution of sodium sulphite, and then to the ordinary fixing bath, after which it is to be well washed. If the process is conducted without mishap, the negative should appear as it would have done had development been stopped at an earlier stage.

FLATTENING MOUNTED PRINTS.

When prints are mounted they curl up with the print inwards. I cannot put them under pressure, as the gelatine sticks to the weight. Is there any safe way of making them lie flat?

If a gelatine mountant is used the mounts will not cockle up, as there is not sufficient water in the mountant to cause the print to expand. Such a mountant can be made by dissolving an ounce of Nelson's No. 2 gelatine in a pint of water. To this while warm five ounces of methylated spirit are stirred in a little at a time, and a little oil of cloves added. When cool the mountant sets as a jelly, and must be warmed in a water bath for use. It should be applied very sparingly with a stiff brush, and the print must be laid down in exactly the position it is to occupy, as it cannot be moved once it has touched the mount. If paste is used it will be seen that the mount first curls backward, and while it is in this state it should be laid on a board face upwards and a couple of tacks or drawing pins driven into the board at each end of the mount close to the edges. The mount will then be unable to curl the other way. When quite dry and the tacks are removed the mounted print will quickly become flat. A third method is to paste a piece of paper the same size as the print on the back of the mount. This counteracts the pull from the other side and keeps the mount flat.

MAKING A SCALE FOR THE BACK COMBINATION OF A LENS.

How can I find the infinity mark for the back combination of a lens? I thought of using the back combination as a long focus lens, and want to make a scale for it.

The lens should be focussed carefully upon a distant object, and the position of the index finger marked upon the baseboard or upon the material to be used as the scale, which should be temporarily fixed in position. To complete the scale the lens should be focussed upon a near object, say at five feet distance, and the position of the index again marked. Half-way between the two marks will be correct for ten feet, half-way between the ten feet mark and infinity will be correct for twenty feet, and so on.

SUBSTRATUM FOR LANTERN SLIDES BY THE CARBON PROCESS.

In making lantern slides by the carbon process, what is the correct solution to coat the glass with, and how is it applied?

The glasses to be used in making lantern slides must be thoroughly clean. If they have been previously used they may be thoroughly cleansed by allowing them to lie in a solution made by dissolving half an ounce of potassium bichromate in ten ounces of sulphuric acid. As this is an intensely corrosive mixture great care should be taken to avoid getting it upon the hands or clothes. When the glasses are taken from the acid they should be rinsed, scrubbed with a nail-brush, and then washed in clean water, after which they should be stood on end in a rack or on some clean support to dry. The coating solution is made by dissolving eighty grains of gelatine in ten ounces of water, and adding fifteen grains of potassium bichromate previously dissolved in a little warm water. The gelatine should first be rinsed in a little cold water to get rid of any adhering dust. The bichromate should be in bright selected crystals. The gelatine is allowed to swell for a little while in the cold water, and then dissolved by gentle heat. If there are any impurities in the solution it must be filtered to remove them. This is best done after the addition of the bichromate, which makes the solution much more limpid than at first. One of the plates is then taken, and any specks of dust blown or gently wiped off. A pool of the warm solution is poured on at one end, and caused to flow over the surface by tilting each corner downward in turn, and the excess is drained off. As each plate is coated it should be placed in a rack to dry, where dust cannot settle upon it. When thoroughly dry the plates are exposed to light to render the gelatine insoluble. They may then be packed face to face with tissue paper between, and will keep indefinitely. Too much care cannot be exercised to protect them from dust at all stages of the work.

ADAPTING SLIDES TO A CAMERA.

I shall be on holiday soon, and intend to purchase a quarter-plate camera with three double dark slides. I have had the offer of a loan of three more slides from a friend. What I want to know is, will the borrowed slides fit the camera I am about to buy? I do not know what sort of camera it is that my friend has, except that it is a quarter-plate stand camera.

Unless the camera and slides have been made by the same firm, it is very unlikely that they will fit. A very brief trial will decide the matter. Even if the slides fit the camera, it does not follow that the plates in the borrowed slides will be in register with the focussing screen. To test this one of the slides sold with the camera and one of the borrowed slides should be filled with old negatives, and the shutters drawn. A straight-edge should be laid across the edges of the slide, and a thin wedge slipped between the straight-edge and the plate. A mark should be made on the wedge to show how far it passes. If it does so to the same extent with the other slide the two are interchangeable. If not, then the plates exposed in the borrowed slides will be out of focus.

CARAMEL BACKING FOR ORTHOCHROMATIC PLATES.

Kindly give formula for black backing composition for orthochromatic plates, preferably that recommended by Mr. Sanger Shepherd—Caramel and Indian ink.

We cannot give the exact composition of Mr. Sanger Shepherd's backing, but a good one can be made by putting caramel aside in a little water for some days to dissolve, when it will form a thick treacly mass. This should be poured into ten times its bulk of methylated spirit and placed on one side for an hour. The caramel will then he found in a lump at the bottom of the liquid. The solution may he thrown away and the lump of caramel dissolved in a mixture of one part of spirit to four parts of water. The addition of a few drops of the solution of caramel which has not undergone the treatment with spirit will help to make it adhere better to the glass. The solution of caramel so made should be of the consistency of office gum. To every six parts of this liquid, half a part of ordinary office gum and one part of liquid artist's or Indian ink should be added. This will be found a very effective backing for orthochromatic plates.

SUBDUING CONTRASTS IN THE PRINT.

You will note that in the enclosed print the high lights are very white and the detail in the shadows is lost? Please say how this may be remedied?

The contrasts in the negative are somewhat too strong for the printing paper employed. One of the bromide papers made for printing from strong negatives, platinotype paper, or the carbon process would probably give satisfactory results. Should this not be the case, then it will be necessary to work on the back of the negative. A simple method of doing this is to take a sheet of fine grain tissue paper sold as papier mineral, and having moistened it by laying it between two sheets of damp blotting paper, to apply it to the back of the negative. A little strong gum or glue should be run round the edges on the glass side and the paper stretched evenly. When it dries, the paper will be quite taut, and parts may be cut away with a sharp pointed knife where the negative is dense, while the parts where it is weak may be strengthened by blacklead or powdered crayon applied to the paper with a stump. Instead of cutting parts of the paper away, it may be made more transparent by painting upon it with vaseline or a non-drying oil. By this method it is easier to soften the edges, but the grease is troublesome and acts as a trap for dust. It is, however, a convenient method if only one or two prints are required.

STAINED VERSUS CLEAN NEGATIVES.

I have been using ortol as a developer, but think that there might be an advantage in using pyro soda, as I believe that the stain that the latter gives is an advantage with under-exposed negatives when the shadows are weak. I shall esteem your opinion on this matter.

The pyro stain certainly does act as an automatic intensifier to the image, and if it were thoroughly under control might prove useful. Ortol, however, or any of the newer developers, will bring out all possible detail, and give all necessary density, without a trace of stain and the prolonged printing which it calls for. The same thing applies to pyro soda if a sufficient quantity of sodium sulphite is used, say twenty grains to the ounce of mixed developer. It will be found far more satisfactory to develop the negatives in a cleanly manner and to intensify if necessary by one of the intensification processes than to trust to the uncertain staining action of pyro made up without a preservative.

DEVELOPMENT OF CARBON PRINTS.

I find it very difficult to strip the original backing paper from the carbon image in the developing tank, owing to the fact that I cannot bear to keep my fingers long enough in the water at the temperature of 110° Fahr. The instructions say that the tissue and support should be kept under the hot water until the backing is stripped off, and there my difficulty comes in, as sometimes I have to take my fingers out of the water before the tissue is stripped, owing to my fingers being unable to stand the heat long enough.

We have never heard of anyone who was inconvenienced by a temperature of 110° Fahr., which is only 14° higher than the normal temperature of the human body. Unless some mistake has been made about the temperature of the water, we cannot suggest any easy remedy. It is possible to work by placing the mounted prints face downward in the water, and by keeping that at a suitable temperature for an hour, when the paper will drop off and the print develop itself automatically, always supposing that the tissue is fresh and that the image has not been over printed.

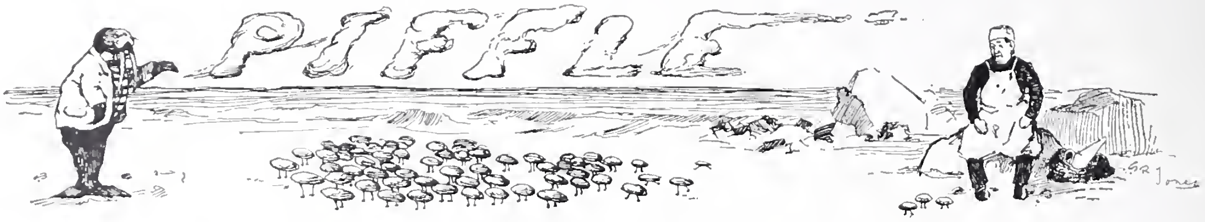
MAKING A NEGATIVE FROM A PRINT.

I wish to make a negative from a P.O.P. print. I cannot copy it in the camera for want of sufficient extension. Please say what is the best way to do it? I might add that the print is a combination from two negatives. Should the print be toned or untoned?

There is no other way of copying the print but in the camera. The extension of the camera may be increased by fitting a box or tube in the place of the lens panel, and by fitting the lens flange on the front end of this box or tube. Supplementary lenses which shorten the focus of the existing lens can be obtained from most dealers, and would enable the print to be copied full size with the existing extension, but as they reduce the covering power of the lens the corners of the plate may not be covered. This is a matter that can only be decided by trial. If the print is to be copied by daylight it must be fixed and preferably toned. If the copying is to be done by artificial light it need not be fixed, and in that state will give a result more nearly resembling the original negative than it would after toning and fixing. These operations have a tendency to increase the contrast in the new negative.

NOTICE TO ENQUIRERS.

Answered by post: H J. M., Miss E M. Early. W. J., R. F. O'N. Steadman, G. F. Wright, M. Dicker. H. J. C., N. G. Pickford, Address Professional P. G. H., J. Coleman, J. Soddy. J. E. S., Subscriber, F. J. Taylor, Anerley, Metolquinol F. W., W. E. Clarke, William Schofield, B. W., W. Bagshaw. Southampton, Aldis, Mrs. Cochrane, E. L. Y., F. Higgins, Miss B. Groome, Exhibitor, C. C. Harrison, Paisley, Backing, F. R. P. S., M. Lazarus, A. Davidson, G. Penrose, Miss L. Russell, J. Allworth Courts, Constant Reader, W. Salmon, Alpha, A. S H. Elder, S. B. Hollings, W. Dunkley, Liverpool, Apprentice, H. H. G., Mrs. Newman, E. Bennett, R. Adams, Shepherd's Bush, C. W. Kingsley, Shareholder, E. F. Garbett, W. E. W. M., R. Murphy, A. Jude, E. L. D., A. G. N., Langdale Smith, W. E. Puttering, E. H. Fitzgerald, Geologist Hugh Patrick, R. E. R.



"The time has come, the Walrus said, to talk of many things."

A FRENCH annual gives an illustrated history of photography, covering the whole ground from before the Deluge to the more or less distant future. It is impossible to reproduce here the illustrations, and perhaps this is as well, for the French representation of Madame Eve might come as something of a shock to readers of this family paper.

* * *

It appears that the Garden of Eden was furnished for its two fortunate occupants in first-rate style, the fittings including bicycles, automobiles, steerable balloons, and photographic apparatus of the best. The "Angel of Bromide" instructed Eve on no account to expose her plates to daylight before development and fixation were complete; and for a time all went well, as is usually the case with photographic beginners who faithfully follow instructions. Fine prints were secured of the plesiosaurus, the megatherium, and other fearsome beasts, and Adam and Eve sent each other countless picture-postcards.

* * *

But one fine day while Adam was snap shotting a zoological curiosity, the wily old serpent, disguised as an amateur photographer, appeared to Eve. Let us pause for a moment to be thankful that the d—l found a disguise necessary before posing as an amateur photographer, because some people seem to entertain the idea that an amateur photographer and the d—l are synonymous terms.

* * *

At any rate, he proceeded to point out to Eve the dangers and inconveniences of the dark room, the red lamp, and the changing bag, and, as he had not yet invented the pocket dark room, the daylight developing machine, or Coxin, he bluntly advised development in broad daylight. Eve fell in with the suggestion, the plates turned black as ink, and the amateur serpent danced with triumphant glee. Then appeared the "Angel of Bromide" and summarily deprived Adam and Eve of photography in all its branches, with the further intimation that the art should remain unknown for 4,000 years or so. Let us again pause to consider the tribulation from which some of us would have been delivered if the sentence had been 5,000 years instead.

* * *

Things now progressed happily enough until the diabolical joint efforts of Niepce and Daguerre resulted in the resuscitation of photographic trouble. Progress in the fell art was rapid, until its practice was so general that the motto of the human race became "Let us photograph one another."

* * *

Then came the invention of the submarine camera, and the photographing of the denizens of the finny deep. The same apparatus also enabled the sportsman to photograph the birds he could not shoot, and the angler to secure fine groups of the fish he could not catch, thus taking with the camera what he failed to take with the hook. By submerging the same instrument in a foot-bath one could secure fine-grain negatives of one's corns.

* * *

The author bewails the fact that this useful camera was not known earlier, as then we might have had a photograph of the Red Sea (from below) by Pharaoh, or the whale (from inside) by Jonah.

* * *

The next achievement was the transportation of huge cameras millions of miles through the air by means of powerful balloons, so that portraits were secured of the man in the moon, and the weird inhabitants of Mars, Saturn, etc. At least, this would have been done except for the small difficulty of finding millions of miles of rope necessary for hauling the balloons back again. Hereupon the gifted and veracious historian asks the pertinent question, "Where will all this end?" And where do you suppose he fixes the point beyond which he considers photography cannot and need not go? Precisely at that point where one simply looks into a mirror and fixes the image. When I point out with justifiable pride the fact that I have already suggested the same process in this page some months ago, it will be seen how great minds tend to arrive at the same conclusions.

* * *

But before this finality is attained we are to photograph the interior of the earth and of volcanic craters; young couples will precede matrimonial engagements by taking X-ray pictures of each other to see that there is no fraud in the number, position, and quality of their respective bones; picture exhibitions will consist of photographs only (the art of painting being a mere superfluous impertinence); and children in their nurses' arms will cry for their cameras.

* * *

It will then be necessary to revise the time-honoured nursery rhymes; and as this new photographic era seems close at hand, I hereby contribute my quota to the collection as follows:

Hey-diddle-diddle, the cat and the fiddle,
The cow jumped over the moon,
And the Reverend Bacon,
Its portrait had taken,
By following in his balloon.

The rhyme in this specimen is open to the onslaught of the hyper-critical, so I will e'en try again.

A diver dove under the sea,
And with his new submarine C-
A-M-E-R-A,
Snapped the maidens so gay
Who were floating about over he.

* * *

In this example the rhyme is all right, but the grammar is no better than it should be, and, all things considered, I had better desist.

* * *

One of the most difficult of London interiors is that of the Temple Church, and many a photographer has been overwhelmed with doubt as to the best means of getting a good result. I accidentally discovered recently that the would-be photographer may be freed from all difficulty and uncertainty in the matter. All he has to do is to pay his visit, as I did, on a Saturday.

* * *

The church is then closed.

* * *

CONSTANT READER.—I reply to your questions as numbered. 1. Yes. 2. Why? 3. Certainly. 4. No. 5. Don't know. 6. Don't care. 7. Perhaps. 8. Perhaps not. 9. Can't say. 10. Yes and no. 11. Did he?

* * *

(I generally answer questions by post, but these replies are printed here because they are of general interest and value. Other papers do the same, I notice.)

THE WALRUS.

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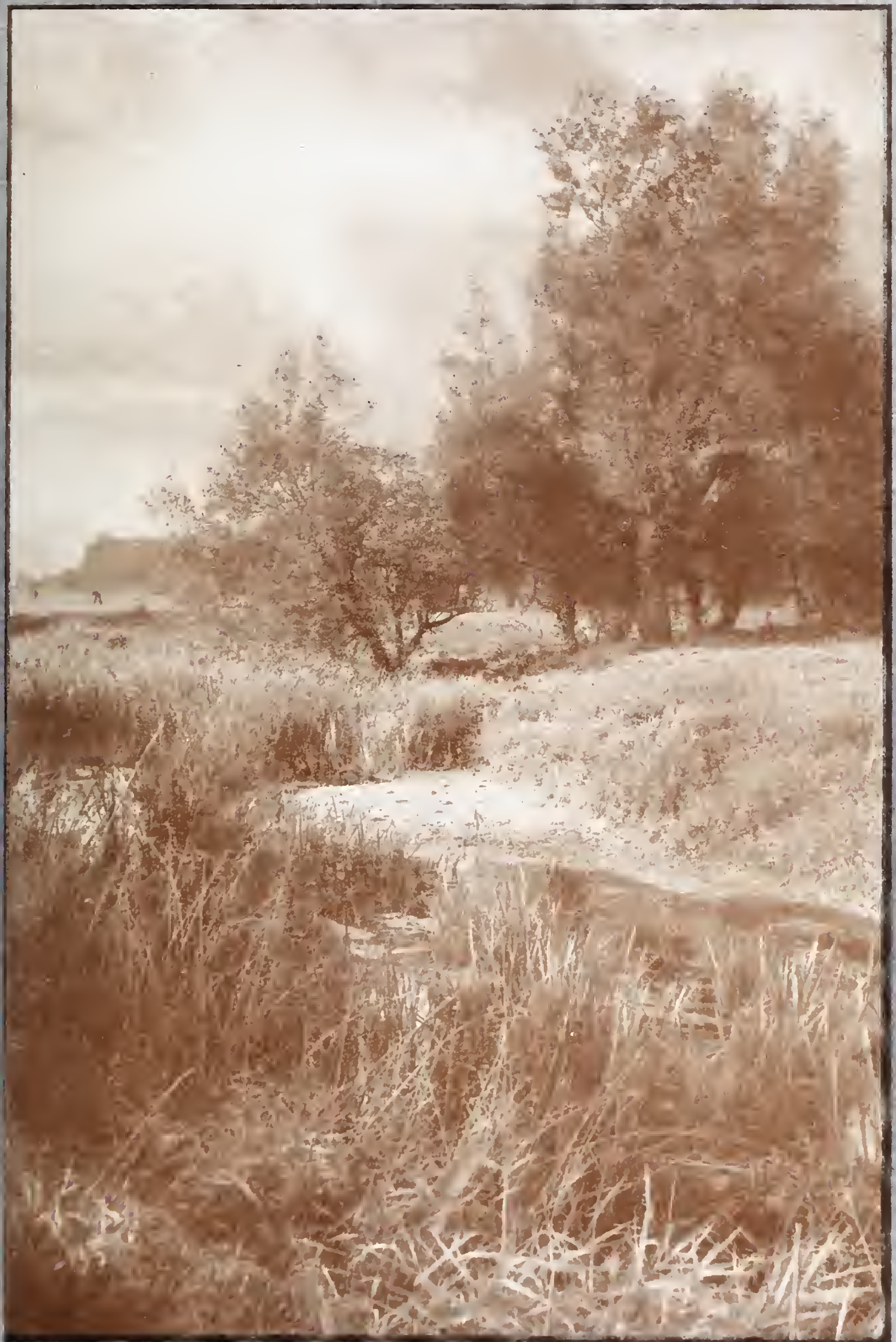
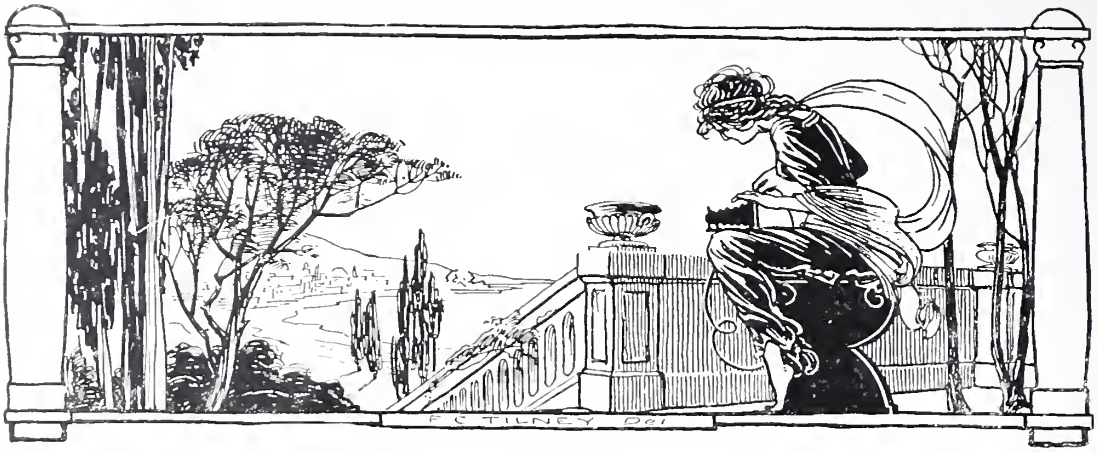


WILLOWS (See Page 234)

BY J. CARPENTER



Some Landscapes by J. Carpenter. By "Monochrome."

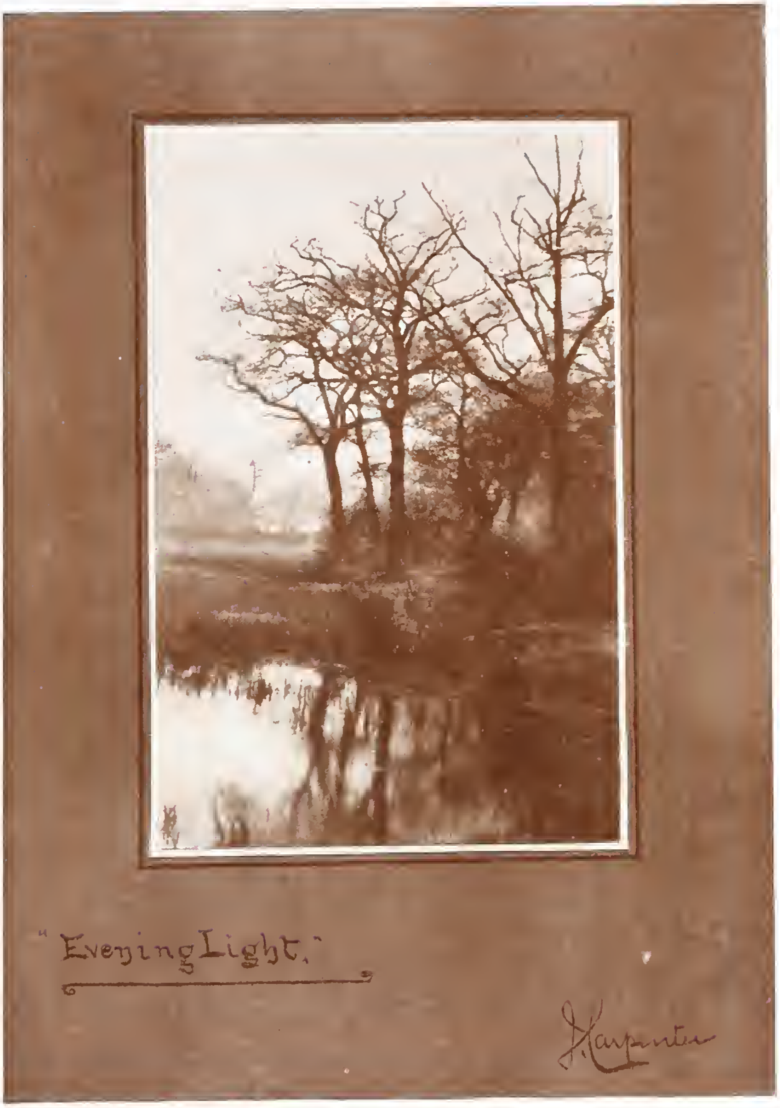
The criticism which follows, it is only fair to Mr. Carpenter to say, has not been passed on a special selection of his work made for that purpose. He handed us a short time ago half-a-dozen prints which, in reply to a request, he said we might reproduce if we liked. Thinking them worthy of something more than the offhand treatment the modesty of their producer suggested, we asked an occasional contributor to comment upon them. One print referred to was reproduced on page 213 last week, the others are all in this present issue.—Ed.

The Editor has lately placed in our hands for comment a number of landscape photographs by Mr. J. Carpenter, best known, it is true, for his treatment of flower subjects, examples of which have been reproduced in *Photography* from time to time. In these landscapes are to be noted the same skilful technique and the same attention to the minutiæ of the process which characterise the flower work by the same gentleman. Inasmuch, however, as they are free from the limitations which hem in the photographer of floral beauties, there are in them more directions in which excellence may be aimed at, and simultaneously and in consequence there are more opportunities for weakness and for failure. Were we to say, in viewing these, that they are uniformly worthy of praise and of study, we should be flattering their producer in a manner he would not appreciate, nor would we adopt. We can wholeheartedly praise some of them without doing anything of this kind, and will proceed to show where, in our opinion, they succeed and where they fall short of success.

Two of the most ambitious of the woodland scenes are entitled respectively "In a Birchwood" (reproduced on the front page of *Photography* last week) and "A Beechwood" (on page 241 this week). Similar in title and in subject, they are curiously similar in treatment, yet are sufficently differentiated not to appear too same. They are both upright photographs—scenes in sunshine in fairly dense wood, the foreground being bracken and undergrowth in both cases. The resemblance does not stop here. The principal feature in the "Birchwood" is the trunk of a slim and youthful silver birch sloping away from low on the right of the picture upwards towards the left. In the "Beechwood" in like manner the eye is caught by three trunks, but in this case sloping the reverse way. As far as these features of the composition are concerned, they represent well enough the right way and the wrong way respectively. The trunk in "In a Birchwood" is narrow, stands by itself against a darker background, and is not visibly connected with the foliage at the top, but is in front of it; moreover, it lies too far to the right of the print. The consequence is that, although something was wanted there, as Mr. Carpenter no doubt realised, it has too much the effect of cutting a corner off the composition, instead of merely attracting the eye and directing its progress towards the high light beyond.

The "Beechwood" picture avoids all these, and avoids them skilfully. The trunks are well within the composition, and form but an intermediate step between the larger ones on the left and the distant high lights. There being three of them, they form a group rather than a hard line, and their foliage at the top is *of* the picture, binding them up with its other component parts. How fortunate that the three were not parallel. The positions of the highest lights in both pictures are corresponding, almost to a hair's breadth. Here again we are led to prefer the "Beechwood." Minute inspection of the "Birchwood" print shows us that part of that little patch of light is a glimpse of sunlit country beyond the tree trunks, but this has to be sought. For all ordinary purposes the highest light in this print is formed by the silver bark of the little cluster of tree trunks, which appear to close up the woodland vista and give it a shut-in sensation, which, pictorially, is never satisfactory. In the print reproduced on page 241, on the other hand, the high light, tiny though it be, is seen at a glance and unmistakably to be formed by open landscape beyond, and we are thus provided with the "way out" the eye demands. The other points in both which call for comment are not numerous. The sky in both has been sunned down to an extent which nothing can justify, although, if it could, the example of some who are considered or consider themselves leaders in pictorial photography might be thought to do so. The eye trained on anything but modern photographs resents an effect got palpably and aggressively by giving to a sunny landscape a sky which overhead has the darkness of late evening. Had the print been made one-sixth shorter, the whole of the desired concentration of light could have been got without any of this falsity, which we blame not because it is false only, but because it attracts attention by its falseness. However, Mr. Carpenter sins in good company. The prints, especially the "Beechwood," are delightful renderings of subjects that must always charm, and show their producer as a thoughtful worker with a real skill in selection and composition.

The impression obtained from the foregoing is borne out by the next print that we will consider; this is "An April Morning," on page 236. The title is well borne out by the muddy road, the pools on which are the highest lights in the picture. The arrangement here is a little trite, and the clouds are certainly not very convincing, but the tones have been kept together admirably; and sharp and bright as the print is, it is absolutely devoid of spottiness. A minor matter, but one that must not escape the critic's eye, is the curious trimming. The far-off line must surely represent the distant horizon, made to appear straight by very remoteness. If so, it should be approximately parallel with the bottom of the print, instead of making quite an angle with it. True this light might represent a railway embankment on a very heavy gradient, but we prefer to attribute it to an oversight that is the more excusable if the more noticeable from Mr. Carpenter's care in other matters. To sum up the print, it may be said to be a little bald and lacking in interest, but noticeably free from positive defects. All the quality it possesses pleases.



"Evening Light" by no means reaches the standard set by the foregoing; and, indeed, is the least satisfactory of the group under consideration. The causes for this, to a great extent, lie upon the surface, and demand little in the way of critical analysis. In the first place the print shows little evidence of the clever selection and arrangement so manifest in the others. We have two or three ill-defined black stems against a cloudy and not too luminous sky, and a reflection of the same in the water on the edge of which they stand. There is not only the absence of a definite composition here, but also a striking tonal weakness. One-fourth, if not one-third, of the entire picture is dark, almost black; above this on the scale there is the greyish distance on the left, and then the slightly luminous sky and reflection. The scale is low; it is not only low, but is in very few tones; the darkest is too predominant, and is not counteracted by a concentrated light. Compare with this print the "Beechwood," which has nearly as much deep colour and the merest spot of a highest light, yet is far and away more pleasing. In fact, the "Evening Light" is more in the title than elsewhere.

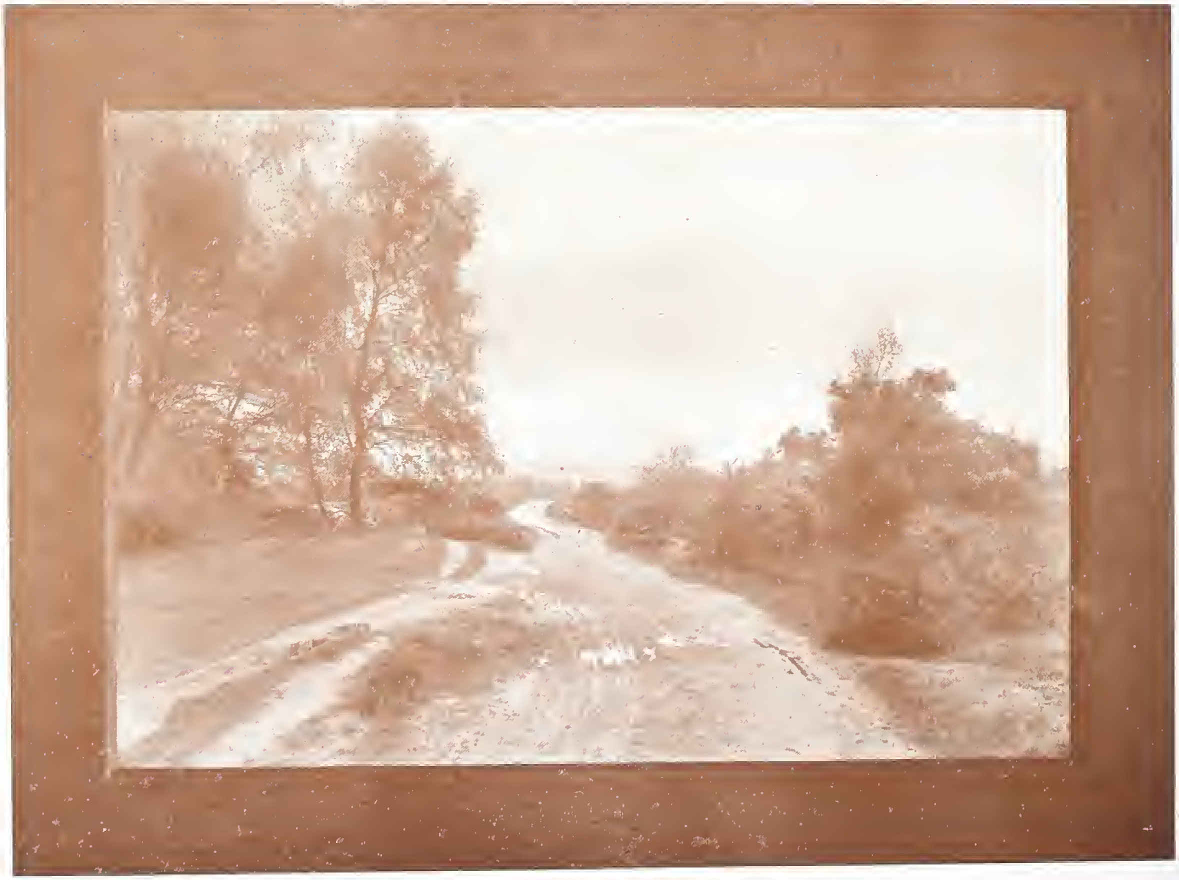
Now, why did Mr. Carpenter think this was worth recording with his camera, and why having done so and printed it did he not destroy it forthwith? The question is not asked captiously, or to give an opportunity for further chastisement of the sore little print, but because its answer will explain many more photographs that we are shown than "Evening Light." There is no reason to doubt, although the photograph does not tell us so, that in the distance behind that greyish clump of trees, the trunks of which appear against the sky, there was a rich glow of colour in the heavens, red below and, getting colder as it ascended, blue above, which was not merely in itself a feast to the eye and joy to the beholder, but spread its charm over all the landscape around. The foreground of tree trunks.

brushwood, and bank in the evening light showed countless tones of green and grey and purple, affecting the retina of Mr. Carpenter in a vastly different manner than they did the cold and unsympathetic retina of the dry plate. The impression then wrought may appear a transient one. It may have passed away entirely, as far as consciousness of it is concerned, before the camera-laden photographer has reached the railway station on his way home, but the print awakens it again, and will continue to awaken it so often as it is seen and studied. But the glamour is not transferable, and to anyone else it is not a finger that can touch the chord of memory but just "an uninteresting print." Therein lies the secret of many a print that delights its producer, but appeals no further.

In "Quietude" (page 244) we have a somewhat noisy rendering of a quiet scene. The subject is one that has long exercised a curious fascination for photographers; and Mr. Carpenter's rendering of it, if not free from defects, is certainly better than most. As in all his prints, with one exception, there is evidence of care and skill in the selection of a view point and in the subject included. The way in which the tones are kept together—"massed" is the term in studio slang—is admirable, but once again it has been got at the price of sunning down to an extent which in our own (the writer's) opinion is unjustifiable. We have an open stretch of country, nothing whatever to overshadow it, a brilliant sunset sky, and a stretch of distance—brilliant?

No, inky black, as black as the fleecy clouds that drift across the sun. Pictorial photography has not yet given us inky black sunshine, but we live in hopes. Aside from this, "Quietude" is successful enough.

In passing to "Willows," which is the last of this set of prints for consideration, we have the most successful of the open-air landscapes, alike in interest, in composition, and in treatment. With a broken foreground and the lighting as it is in this picture, it would seem to be impossible for the photographer to do more in avoiding spottiness than has been done; and although the high lights are far more distributed than they are either in "The Beechwood" or in "An April Morning," the picture gains rather than loses by the scattering, since this is caused by the greater interest of the subject—by its lack of bareness. The foreground here is of exceptional richness, and serves as a fitting introduction to the incident of the wind-blown willows and glimpse of sunlight that form the keynote of the picture. There is a breeziness about it that is suggested alike by the dishevelled foreground, by the not too definite foliage, and by the sky, which are in keeping throughout with each other and with the title. Willows are singularly suggestive of the weary wind that shook the tree tops as it went. We like this particular picture the best of all Mr. Carpenter's work that we have seen, with the exception of "Sunshine and Shadow" (reproduced in *Photography* several years ago), and like it none the less because he resisted the temptation to sun down the two light patches in the foreground on the right.



An April Morning. *By J. Carpenter.*

PHOTOGRAPHY, No. 775, Vol. XVI.

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LEADER

To Picture-making Photographers.

Next week we shall publish the first of our two special issues dealing with the exhibitions, while this week on another page will be found a critical comment upon some landscape photographs by Mr. J. Carpenter. Both may be taken as examples of the means by which we believe *Photography* can be made of most service to those whose interest in the camera lies mainly in its use as an aid to picture making.

It is noteworthy that the exhibition of the Royal Photographic Society, although it professes to cater for all branches of photography, although it has a trade section useful for supplying "the needful," and although its opponents have often accused it of neglecting the pictorial side of photography, is nevertheless primarily—yes, and secondarily and thirdly, too—an exhibition of photographic pictures. The rules of the exhibition, its announcements, and its press notices are all concerned with pictorial photography, and the people who go to see it go to see the pictures. They may glance at the other exhibits, and they may even wander into the professional section under the belief that it contains the pictures they came to see. That being so—and it is unquestionably the fact—we may be pardoned if we regard our exhibition issues as being of most importance to the picture maker.

The time is the culmination of that individual's year. The Government and fiscal year, as we all know, somewhat appropriately refers its origin to the first of April. Another very important year has the first of September as its centre of interest; the pictorial photographer works with the end of that same month in view. Not too closely in view, perhaps, if we may judge by the number of letters that we receive year by year, which averages out in a curiously uniform manner, telling us that "pressure of business, I am sorry to say, has prevented me from sending anything to the shows this year." The curious part of these communications is that the men whom we should pick out as being the busiest are frequently those who are copious exhibitors—we need hardly look beyond the senior member of the firm of Wellington and Ward or the hard-worked manager of Kodak, Ltd., for examples of that kind.

The season, then, is one in which the first claims to be considered in a journal appealing to all photographers are those of the photographic picture maker, and upon this point we would remind our readers of what we have done in the past, and assure them that we hope to do as well, or better, in the present. We have made arrangements for the careful and impartial criticism of as many as possible of the exhibits at both shows—in the pictorial section that is—and propose, as before, to illustrate our notes as fully as possible with sketches in line of the pictures dealt with. We may perhaps be permitted to point to the review of some pictures by Mr. Carpenter this week as an example of what we aim at—detailed criticism which is neither venomous nor adulatory, and which is written with a view to help the general reader of artistic aspirations as much as, if not even more than, the particular worker criticised.

This year we hope to do more. Week by week while the exhibitions are open, we propose to give reproductions of the leading pictures on as large a scale and as faithfully as the means at our disposal will allow. To this end we have already received promises of the active co-operation of a majority of the leading exhibitors, and we hope in this way to bring the work to be seen at Regent Street and Piccadilly to those who are unable to go to the exhibitions to see it for themselves. With the reproductions we hope to be able to give notes as to the sizes, etc., of the pictures, and their prices when for sale, so that our readers, as far as possible, may be put in the same position as those more fortunate ones who can go in person and see the actual works themselves.

Spirit of the Times

"THE ABOLITION OF THE DARK ROOM." In our leading article a fortnight ago on the abolition of the dark room, we referred to the Kodak developing machine as appearing subsequently to the Tyma, but we did not intend to convey that this was the order of their invention, as some appear to have inferred. The main patent for the Kodak developing machine was taken out as long ago, photographically speaking, as October, 1899—in fact, an abstract of it, with illustrations, will be found in *Photography* for February 22nd, 1900; while the application for protection for the Tyma, we believe, speaking without reference, was made in August, 1901. The importance of apparatus for dispensing with the dark room for ordinary purposes of development is a matter which will certainly grow with time, and we therefore think it well to correct any possible misapprehension of our leader. The development of an idea is, in its way, as interesting as the development of a photograph; and it will be noted in connection with the patent to which we have referred that in those days the patentee thought it necessary to provide means by which the development of the film could be watched, if the photographer thought such a thing desirable. Still, even then, he pointed out that the "inspection tube" through which development was observed was "not necessary to the working of the apparatus," which "left the photographer free to attend to other matters without danger of injury to the film undergoing treatment."

* * *

THE TRAINING OF A ROYAL PHOTOGRAPHER.

The new king of Servia, Peter Karageorgewitch, alone amongst crowned heads in Europe has regularly served his time in the studio of a professional photographer. According to the *Correspondance de Vienne*, at the end of 1888 and the beginning of 1889 a certain Peter Cara, of Cettinje, was working as a simple apprentice (student is probably intended) in the studio of Herr Scolik. From the very first his manner, we are told, attracted the attention of his chief. He threw himself into the business of studio and workroom with much zeal and assiduity, and his negatives, both landscape and portrait, were able to hold their own with those of the cleverest photographers. So closely was the incognito preserved that no one suspected him as being other than a professional Montenegrin photographer anxious to improve in his work, and it was only at the end of his time with Herr Scolik that the student revealed his true name and appeared as Prince Peter Karageorgewitch, who was supposed at that time to be residing at Cettinje. His experience as a royal learner of photography is certainly unique, but it is a good sign for the community over which he is set that he showed so much commonsense in his educational methods. Too many aristocratic photographers, while anxious to be regarded as capable workers, are not above passing off as their own productions work towards which they contributed nothing but the muscular effort required to release the shutter. Selection of subject, arrangement, pose, timing (when not settled once for all by the camera maker), development and printing of course, are all matters which some "photographers" are content to have done for them. Prince Peter seems different.

* * *

WHAT IS A "FIGURINE"?

The "Figurine"—beautiful word—we are told, is going to supplant the portrait photograph entirely. In future a lady, instead of ordering a dozen cabinets, will demand a dozen figurines, the said figurines being machine-made marble busts, turned out in a few minutes by some wonderful piece of apparatus that has been discovered in Italy by the writer of "Sherlock Holmes" and other stories. As far as can be gathered, the apparatus is an adaptation of the pantagraph to a milling machine, something, apparently, on the lines of Blanchard's lathe. The sitter takes her seat, a block of marble is placed conveniently near, and the operator, holding in his hand a stylus or guide, proceeds to rub it over her features. As he does so the rapidly revolving cutter of the machine travels in a similar manner over the marble, with the result that when every portion of the sitter's face has thus been gone over she "rises and looks at her own image with a little gasp of delighted surprise." It will be seen from this that the apparatus is an elaboration of the "profeel machine" spoken of by Sam Weller—an invention which had a short vogue before photography, although its results were frequently anything but "the exact replicas" generally spoken of in connection with these devices. In fact, while they act admirably in copying from firm solids such as wooden models, plaster casts, etc., they are by no means so suitable for imitating the outlines of human flesh. What applied to the "profeel machine," as far as the drawbacks of the stylus are concerned, will doubtless apply to the modern "figurine" maker, so far as it adopts the same method, and, except that it gives a copy in three dimensions instead of two, it would appear to be on similar, if more elaborate, lines. No information is forthcoming so far as to the time during which the patient has to sit motionless.

* * *

POSITIVES FROM POSITIVES.

We had occasion recently to bring up the old experiments of bleaching darkened silver paper by immersing it in an iodide solution and then exposing to light. The decomposition of the iodide is useful in some respects as an illustration of certain theories concerning the chemical action of light. Herr Hrudnik, of Vienna, has tried to make use of this property to give a printing paper which will yield positives from positives. Most iodides are sensitive to light, giving off free iodine, which in the nascent state will readily combine with metallic silver. Ammonium and cadmium iodides, according to the author's communication to the *Photographische Correspondenz*, are the most easily decomposed, potassium iodide being inferior in this respect even to the iodides of sodium and strontium. Darkened collodio-chloride paper (blackened in the light) is bathed for ten minutes in a three per cent. solution of sodium acetate, then washed and treated for the same time with equal parts of cadmium iodide, ammonium iodide, and borax in fifteen times the quantity of water. The dried paper is printed, washed, and fixed, then toned; this last operation frequently requires an hour. A better method is given thus: Darkened P.O.P. is bathed in the iodide bath, but hydrochloric acid is substituted for the borax. The picture appears very quickly, and when printed the paper is fixed, washed, and bleached with mercuric chloride solution. After a thorough washing, it is developed with rodinal or some similar agent until the image is of the desired depth. The process has a certain theoretical interest, it is true, but one requires to print from a positive transparency so seldom that much importance cannot be attached to it.

* * *

A TRADE NOTE. ROUMANIA.

Last week we referred to the possibilities of photographic trade in South Africa and in Formosa. This week news comes of similar outlets in Roumania, from the special correspondent at Bucharest of *Commercial Intelligence*. Photography, he writes, has for some three or four years been a rage in Roumania among the upper and middle classes, and many hundreds and thousands of francs are expended on apparatus, lenses, material, etc., although, unfortunately, the shops which stock these articles are supplied only by German and Austrian firms. The cause, he tells us, is not difficult to find. He inquired of two proprietors of the principal shops in Bucharest, and the reply was in each case the same old wheeze about English weights and measures. "We should like to order goods of British manufacture, but do not know how to do so; we occasionally get English trade catalogues, but in English only; even if in French or German we could understand them. Besides, travellers from the Austrian and German houses visit us at least once a year, go through their catalogues with us, and explain any new invention. Do you blame us for giving them our orders?" We are anxious to do our duty in this matter of foreign trade, but all this talk of British weights and measures is a little tiring, especially as, in photographic goods at any rate, it is totally undeserved. "We know," went on his informants, "that British goods are infinitely superior to Continental manufactures, even if somewhat dearer. But photography is not a line where cheapness wins, and our buyers want only the best." If, under these conditions, they continue to buy goods they admit to be inferior, it seems difficult to see how they can be prevented. As far as Continental trade is concerned, we believe that much more could be done, but we should refer more to the lack of suitable travellers than to the weights and measures cry.

STRIPPING FILMS FROM NEGATIVES. The conversion of dry plates into stripping films is very desirable in cases such as when the negative is to be printed from in carbon and a reversed picture is required; but to remove the film from a dry plate glass is not the easiest of matters, though with a little practice it will be found quite possible. In *Le Procédé*, M. Drouillard discusses the way usually adopted, and suggests an improvement. The general rule is to soak the plate in formaline until the film has become almost insoluble and impermeable, then to place it in a solution of sodium carbonate until the gelatine has absorbed a sufficient quantity of it. When now the negative is immersed in weak hydrochloric acid, carbon dioxide is liberated as effervescence takes place, and the little bubbles of gas which lodge themselves between the film and the glass cause a separation of the two, so that the film may be stripped off. The author remarks that after having hardened the film with formaline, it is a lengthy process to get it saturated with sodium carbonate. He therefore advises the use of a combined bath of one part of carbonate, three of forty per cent. formaldehyde, and twenty of water; its tanning action is enhanced by the alkaline reaction, and two operations are superseded by one. After ten minutes' soaking, the surface of the film must be wiped and the plate dried. A sharp knife is then used to cut all round the film a slight distance from the edge, and when this is done the negative is put into a five per cent. solution of hydrochloric acid, when the film will probably float off unaided, but, if necessary, may be assisted by gently raising one corner.

The Week's Meetings

THURSDAY, September 17th.

Everton. Half-day Outing.
Isle of Wight. Wootton Excursion.
Handsworth. Intensification and Reduction. W. F. Foster.

FRIDAY, September 18th.

Croydon Nat. Discussion of Excursion Negatives.

SATURDAY, September 19th.

Excursions.

Boro. Poly. Wimbledon Common.
Ilford. Epping Forest.
Bristol. Henbury.
Glasgow Southern. Calderwood Glen.
Paisley. The Glen.
Newton Heath. Booth Hall.
Balham Hampstead Heath.

MONDAY, September 21st

Ilford. Lecture. A. Hubert.
Bradford Indoor Meeting
Walthamstow Ordinary Meeting.
South London. Lens Making. Taylor, Taylor, and Hobson.
Bowes Park. Competition, "Still Life."

TUESDAY, September 22nd.

Nelson. Velox Paper. H. Veevers.

TUESDAY, September 22nd (continued).

Hackney. Odds and Ends. F. W. Gosling.
Manchester. Majorca. By G. E. Thompson.

WEDNESDAY, September 23rd.

Boro' Poly. Annual General Meeting.
Blackburn. Exhibition of Prints from the Rambles.
North Middlesex. Lantern Night.
Everton. Lantern Lecture. North Wales. The President.
Balham. Reminiscences. Dr. W. Pickett Turner and E. S. Tardrew.

THURSDAY, September 24th

Handsworth. The Manufacture of Lenses. H. L. Aldis.

FRIDAY, September 25th.

East Liverpool. Exposure and Development.
Croydon Nat Demonstration of Pinakol P. and Pinakol Salt N.
Holmfirth. Social Evening.

SATURDAY, September 26th.

Excursions.

North Middlesex. Mill Hill.
Brentford. River Brent.
Hull. Driffield.
Coventry. Baginton.
Ashton-under-Lyne. Chew Valley.
South London. By the River Brent.

Societies will have their meetings announced here if the syllabus is sent to us at the beginning of the Session, or from time to time.

Dyes for Orthochromatising.

IN a recent communication to the Société Française de Photographie, MM. Guilleminot and Boespflug described some experiments with dyes of the rhodamine series for orthochromatising plates. To those who do not mind the messy work of colour sensitising their own plates the information should prove of considerable value, for the spectrum photographs which accompany the article show plainly that these dyes are very effective. Putting on one side the disadvantages and inconveniences which attend the bathing of plates, it must be admitted that more even sensitiveness to the various rays can almost always be obtained in this way than if dyes had been added to the emulsion. Rhodamine does not cut off the speed of the plates, nor give rise to fog, nor does it affect the keeping quality. It sensitises to orange, yellow, and green, rather feebly to bluish green, and more strongly again to blue and violet. The authors of the communication have prepared a sulpho-derivative which they prefer to the original compound, but from our own experience of the commercial "rhodamine G" we doubt if any great improvement is effected owing to a foreign introduction. The absorption spectrum of the solution (about one in five hundred of alcohol *or* water) shows that only light from A to $C\frac{3}{4}D$ passes through, and thus its colour sensitising action ranges from $C\frac{3}{4}D$ to $G\frac{1}{2}H$. We should recommend soaking the plates in the solution for two minutes, rinsing in water, and drying in a warm room. On testing with the spectroscope camera it will be found that rhodamine quite equals, if not beats, erythrosine as an orthochromatising agent.

Marion's Quick-print Postcards.

PAPER and postcards, that may be exposed by artificial light and developed without the use of a dark room, are amongst the most popular of photographic printing processes, and the "Quick-print" postcards brought out by Messrs. Marion and Co., of 22-23, Soho Square, are of admirable quality. The exposure may be made either to artificial light or to daylight, but except in the case of very dense or very yellow negatives artificial light will be found the more convenient.

The packet may be opened and the printing frames filled by the light of an ordinary gas jet, but this should not be too close during the operations. Six feet away is a fair distance to work at, and will allow ample time for the operations without fogging the cards. The exposure should be made at a distance of six inches from the gas jet, and may vary from fifteen seconds to three or four minutes, according to the intensity of the light and the density of the negative.

As development is completed very quickly—probably in about half a minute—it is desirable to place the exposed card in a dish of water for a few seconds first, to ensure that the surface is thoroughly wetted and so assist the flow of the developer. Any clean working developer may be used. A combination of metol and hydrokinone is as convenient as any, and the metol-quinone developer sold by Messrs. Marion and Co. is recommended for the purpose.

For fixing, a bath composed of hypo four ounces, alum one ounce, and water sixteen ounces, is suggested by the makers. We do not find that these combined fixing baths have any advantage over a plain aqueous solution of hypo, which in our opinion is quite as efficacious and a great deal more convenient.

The colour of the image is a good black, and the texture of the surface being a fine matt does justice to all detail. The packet of twelve cards sells at eightpence.

Dordrecht. By S. L. C.

DORDRECHT, or Dort as it is called in Holland, is a delightful old world town, and just the spot to get to for an odd day or so from the rush and bustle of Rotterdam. Let the tourist take the steamboat in preference to the railway, for in this way he will gain a better idea of the surrounding country. In many places the dykes on each side arise above wide meadows, intersected by canals, and streaked with long lines of trees. In the midst of these meadows boats appear to be sailing over dry land, for the canals along which they pass are high up and enclosed between artificial banks. Here and there as we pass along we call at small landing places, at which the primitive life of the people can well be seen. A few pictures can always be secured if one lands and misses the boat, continuing his journey by the next in a few hours. All along the river there is continually passing a steady stream of boats, their brown and yellow sails playing in the breeze.

Dort stands on an island. The visitor will be struck with the fact that yellow must be the favourite colour of its people. All appears to be yellow, but everywhere is a perfect dream of colour. In fact, the chief charm of Dort is its delightful form and colour. It is a place that makes us appreciate more than ever the work of the great Dutch painters.

"PHOTOGRAPHIC FAILURES: PREVENTION AND CURE," by "Scrutator," published by Dawbarn and Ward at one shilling, deals in a very satisfactory manner with the subjects set forth in the title. The negative prints upon translucent paper will give the beginner a better idea of the faults to be avoided than many pages of descriptive matter.

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"CAMERA WORK," Mr. Steiglitz's beautiful publication, we have often referred to. It may be interesting to note that Messrs. Tennant and Ward, of 287, Fourth Avenue, New York, U.S.A., have obtained a few copies of the magazine, which they are willing to supply at five dollars for No. 1, five dollars for No. 2, three dollars for No. 3, and three dollars for No. 4, packed and post paid. The four numbers forming volume one complete will be sent for ten dollars post paid, and we can only advise those of our readers who wish to see the finest photographic magazine to lose no time in securing a set.

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A GOOD FOCUSSING SCREEN may be made, says M. Guillaume in the *Photo-Revue*, by making use of an ordinary dry plate. After a very short exposure to the light it is developed until grey, then fixed and well washed; next it must be thoroughly bleached in a two per cent. solution of mercuric chloride, and well washed and dried; it is then ready for use. According to Herr Gaedicke, however, a chlorobromide plate is preferable, owing to its much finer grain, and this must be treated in just the same way.

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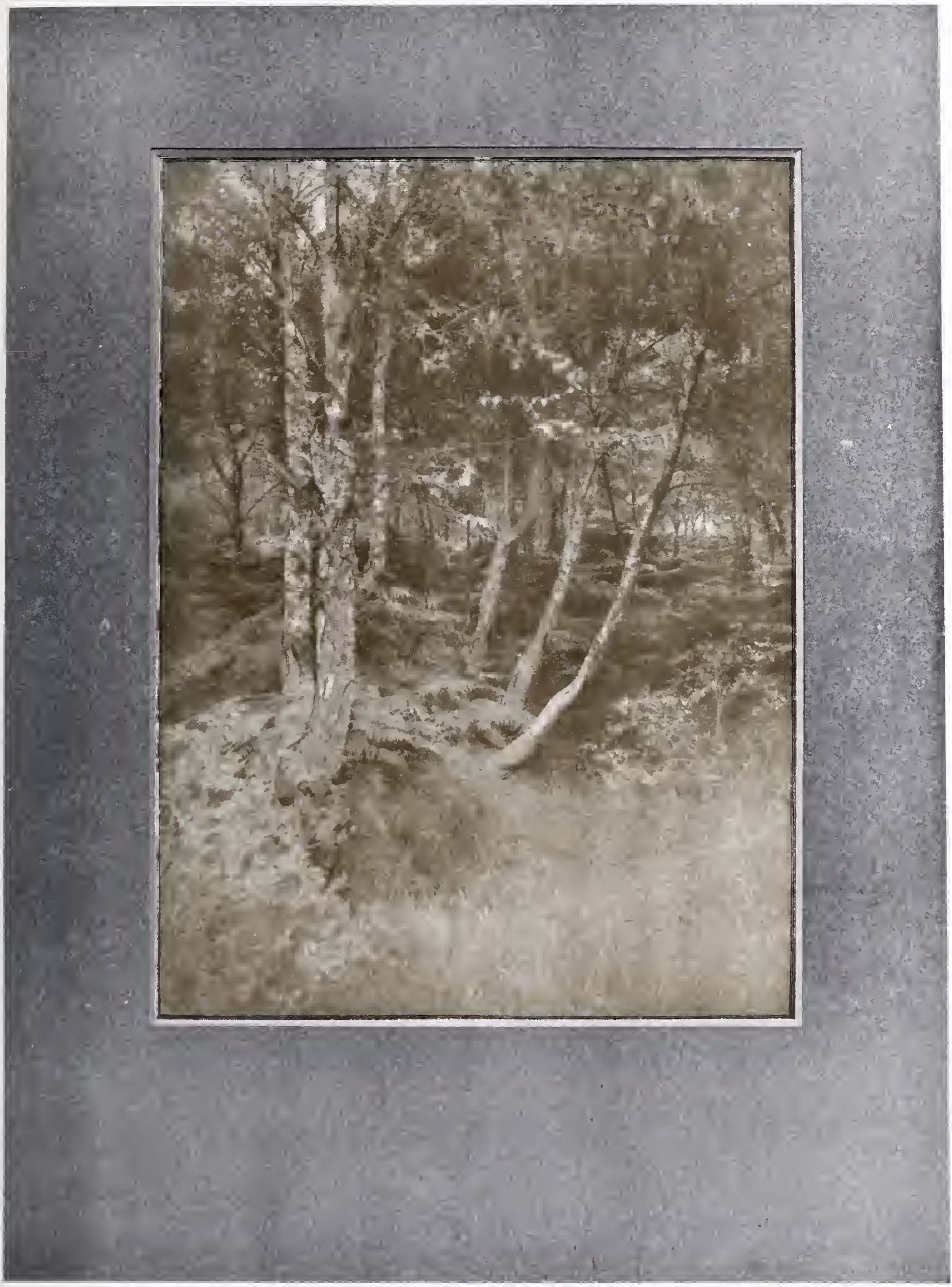
A RED VARNISH OF A VERY SATISFACTORY NATURE has been placed upon the market by the Bayer Company, of Booth Street, Manchester, and is obtainable from most dealers. It is of an exceedingly deep tint, passing neither orange nor any of the more actinic rays. Used as a backing for plates, for which purpose a swab is supplied in each bottle, it dries rapidly, and effectually prevents halation even with plates sensitive to red. It may also be employed to coat glass (preferably ground-glass) for glazing the dark-room windows or the lantern. For this purpose we should prefer to dilute it slightly and to flow it over the surface. Glass coated in this manner will pass more light of a safe character than will most specimens of ruby glass, which commonly allows a considerable quantity of blue or violet to escape, and will be found exceedingly useful when orthochromatic plates are being developed.



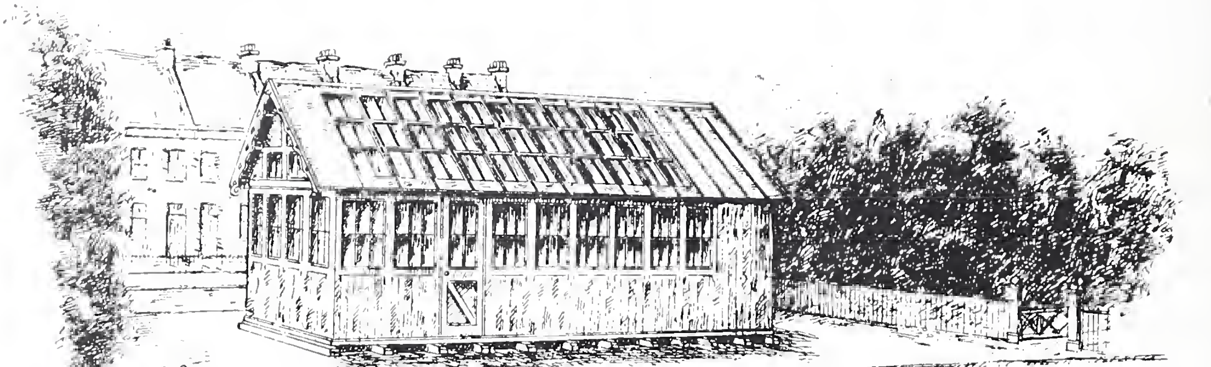
A Beechwood. By J. Carpenter.

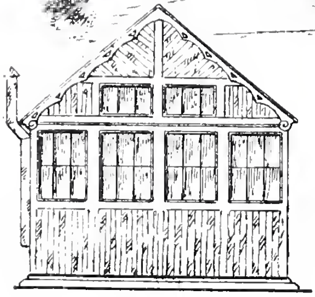
A New Form of Transportable Ready-made Studio.

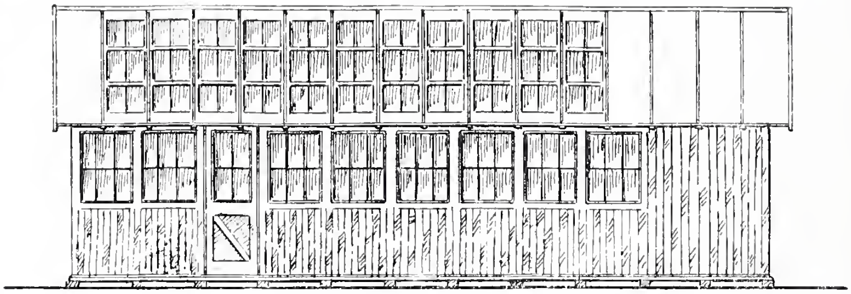
An account of a patent portable studio, which can be taken to pieces and packed flat for transmission, and can be altered or enlarged at will by changing or adding sections, each section being standardised.

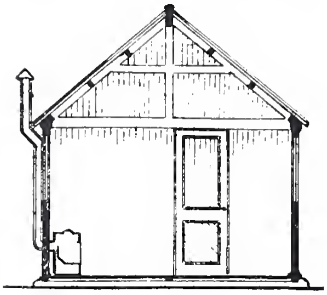
IN our issue for April 25th our contributor Mr. H. J. Mark described how a studio and dark room might be constructed, which, while possessing all the essential requirements of a permanent building, should be placed upon the ground rather than built into it, so as to be free from claims as a "fixture." We recently had an opportunity of inspecting something on somewhat similar lines, which is supplied ready-made.

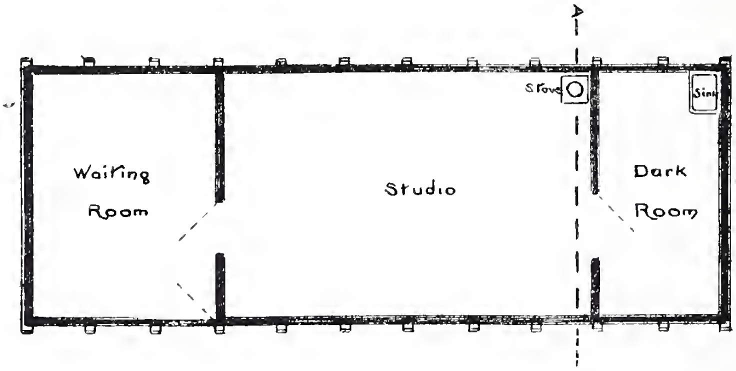
The makers of this article are Messrs. Farquharson Bros. and Co., the well-known timber importers and merchants, of 85, Gracechurch Street, London, E.C., who are the proprietors of a large steam joinery works at Hatcham, where the studios are constructed. We may point out in this place that the studios are only one application of a patent building which the firm are manufacturing in great numbers for export and home use, all of which buildings possess certain features in common, to which we shall refer later on. The studio, which we illustrate below, it will be seen, consists of three rooms, a waiting room, the studio proper, and a dark room. No foundations whatever are required for this structure beyond a general levelling of the ground. The length of the entire building is thirty-three feet, of which eighteen are taken up by the studio, nine, by the waiting room, and three by the dark room.

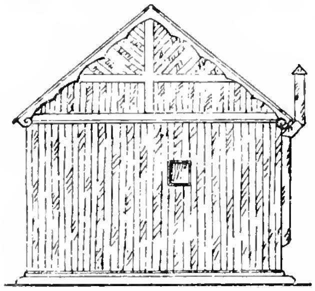












While a studio eighteen feet long has considerable limitations, these are not applicable to this particular pattern, as from the nature of the construction, the waiting room can be thrown into the studio in a quarter of an hour; the latter can be extended into the dark room as quickly, the dividing walls taking down or putting up with almost as little trouble as opening and closing folding doors of the usual type. Yet when up they are as firm as could be wished. A studio of this particular size, glazed as shown, painted in two coats, costs a hundred and three pounds ten shillings on rail or ship in London.

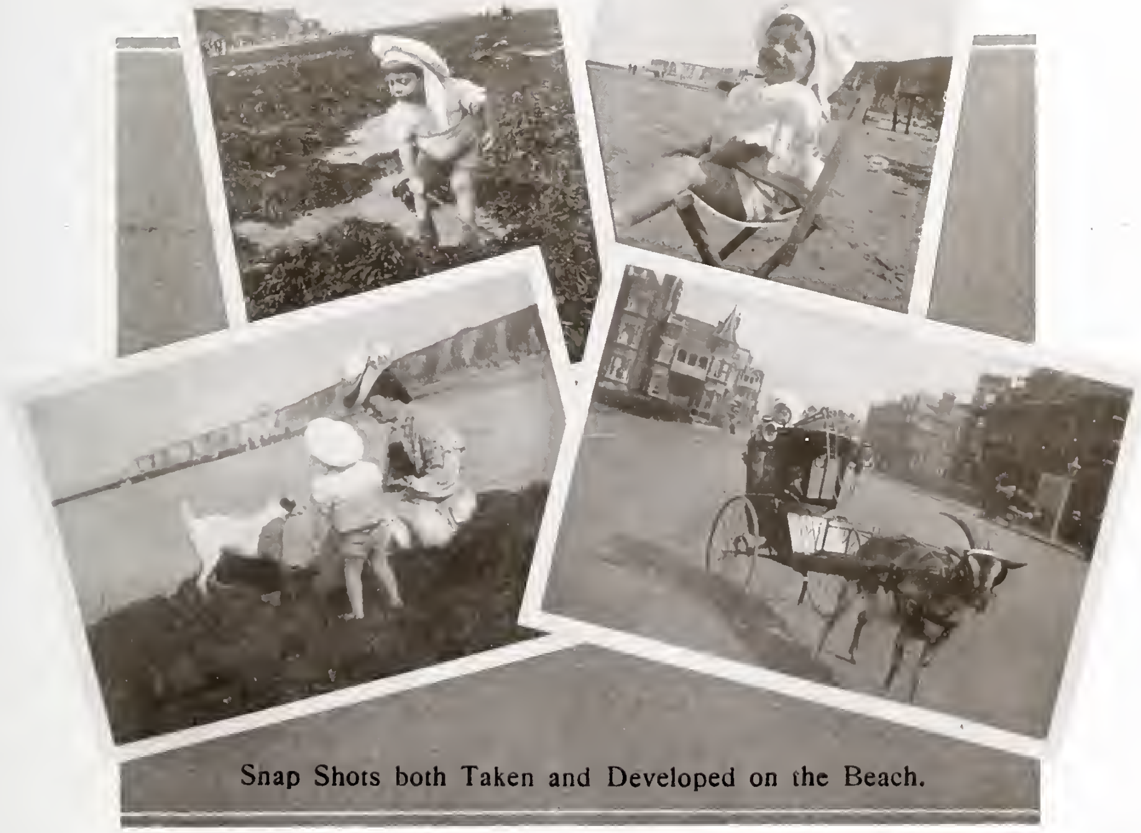
The buildings, of which such a studio forms one pattern, are known as "Falconer's Transportable Interlocking Houses." They are composed of wood, with iron or steel connections. The interior and exterior wall pieces, as well as the doors and windows, are all interchangeable, so that the style of the buildings can be varied at pleasure, while the windows and doors can be changed about from any one to any other part of the building in a few minutes. All the other parts, such as roofing and floor sections, are interchangeable, and are fitted at once into their own places, no marking or numbering of parts being required. The walls are framed with an air space between, which regulates the heat and cold. The floor is made in panels framed together. The roof panels are covered with ¾in. matchboarding, and this again covered with zinc or iron. The roof is locked together, and cannot be moved by the wind; while the water is carried off by small gutters between each section, the roof itself being perfectly watertight. Suitable ventilators, which can be regulated at will, are provided.

A one-roomed house, the makers tell us, can be dismantled and erected in about one hour, a two-roomed house in about one and a half hours, and the other sized houses in proportion. We saw the operations of moving walls, windows, and doors performed at Messrs. Farquharson's works, and were struck by nothing so much as by the substantial nature of the buildings when erected, the speed and firmness with which they could be put up, and the simplicity of the means employed.

The method of construction is such that they can be erected or dismantled by totally unskilled labour and without tools of any description. No bolts, nuts, or screws are used in their construction, nor are any of the parts likely to get out of order. Moreover, the parts are standard, so that if any part should be damaged or lost it can easily be replaced, while rooms can be added by the purchase of additional sections with a very little trouble, and with the certainty that they will fit exactly into position.

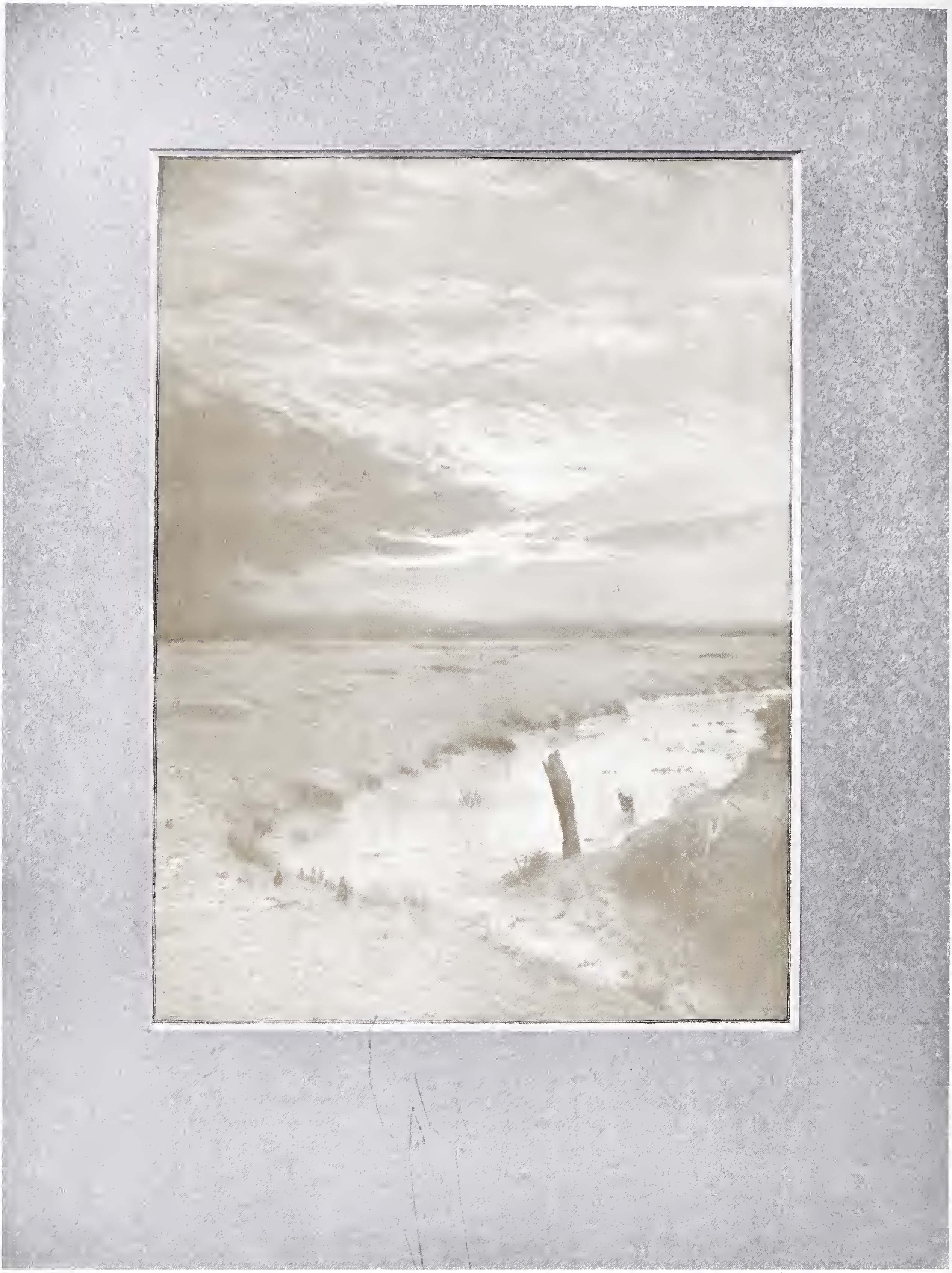
Messrs. Farquharson are busy making these buildings for all sorts of purposes. A number are going out to South Africa and other colonies as dwelling houses; an entire temporary hospital has been fitted up in this style. A two-roomed house, which we saw standing complete, with a covered "stoop," was for sale at sixty pounds.

We cannot help thinking that there is a big future before buildings of this character for the country and abroad, and any of our readers who are interested in the subject could hardly do better than get into communication with Messrs. Farquharson.



Snap Shots both Taken and Developed on the Beach.

THE little batch of photographs which we reproduce above depends for its interest on the fact that the photographer who took them, developed them while sitting on the sea shore, by means of that most ingenious apparatus which we reviewed a few weeks ago, the "Pocket Darkroom." Mr. J. W. Meek, the photographer in question, tells us that his outfit (a No. 1 folding pocket Kodak, pocket darkroom, developer, fixing solution) was all contained in a small handbag. Development was done in the open-air on the beach, the aid of sea water being requisitioned for washing purposes. The original prints suffice to show the adaptability of the pocket darkroom and the excellence of the results that can be obtained with it.



QUIETUDE. BY J. CARPENTER.

The Growth of the Optical Glass Industry at Jena.

AS an example of the creation of an industry through research directed towards a special end, said Prof. Meldola in a lecture at Oxford recently, attention may be directed to the manufacture of optical and other glass at Jena. The physical requirements to be complied with in order to produce the most perfect glass for the construction of lenses for optical instruments had long been known, and many attempts had been made to realise these conditions in practice.

A visit to the international exhibition of scientific apparatus in London in 1876 induced Prof. Abbe to commence in 1881, in conjunction with Schott, a set of experiments having for their object the production of a series of glasses of known composition, the optical properties of which were concurrently determined by measurements made by Prof. Abbe.

The experimental meltings were enlarged in scale the following year, and an experimental laboratory was established for the continuation of the work at Jena. A chemist was added to the staff, and thus there were co-operating in this industrial research a glassmaker, a chemist, and a physicist. Before the end of 1881 the results had been so far successful that the Jena laboratory was in a position to make known to the world the processes for the "rational manufacture of optical glass."

At this stage the experimenters were persuaded to put the results of their labour into practice, and the instrument makers, Messrs. Zeiss, having joined in, the Jena glass factory for producing optical glass on the commercial scale was established towards the end of 1884. In the first catalogue published by the Jena Works in 1886, we are told that forty-four optical glasses, nineteen being new in composition, were included. By 1888 the undertaking had been so successful that a supplementary catalogue was issued containing twenty-four additional glasses, of which thirteen were new; and in 1892 a second supplement announced the manufacture of eight more kinds of glass, of which six were new.

Consider what this piece of work, prompted by science, fostered by the State, and carried out by an university professor in conjunction with a technologist has done for German industry. In the early stages of the experiments, before commercial results had been obtained, the experimenters were subsidised by the Prussian Education Department and by the Prussian Diet, with a wise forethought which subsequent events have amply justified.

The Zeiss instruments are now world renowned, for it is obvious that a command over the processes for making glass with any particular optical properties that might be desired would enable the instrument maker to produce lenses suitable for any purposes—microscopes, telescopes, field-glasses, photographic cameras, etc. As a further outcome, the study of the properties of glasses of known composition in connection with the thermal and electrical behaviour has led to the manufacture of glass especially suitable for making thermometers, as also for electrical insulation, for the construction of the vacuum tubes that are used for producing Rontgen rays, and for the vessels employed in chemical laboratories.

In brief, the manufacture of the finer kinds of glass has been placed upon a strictly scientific footing as the outcome of scientific research.

Some Decorative Applications of the Blue Print.

ARE you interested in decorative photography? If so, do you use blue print paper? There is no printing medium which lends itself so well to real decorative work. It might well be called the versatile paper of the photographer.

Suppose one wishes to possess something out of the ordinary in the way of a fan. The blue print can be used very effectively to produce it. If the fan to be decorated is of a Japanese or a palm-leaf shape, cut a piece of blue print paper a little larger than the fan, and in the middle print a marine picture for choice, selecting one with plenty of clouds in the sky. A vignetted picture is perhaps more artistic than one printed in square or oval. Mask all the paper except where the print will appear. Next scatter over the glass support of the printing frame small leaves or ferns; mask the print, and then place it in the frame and fasten the back. Put it in the sun until the spaces between the leaves are deeply bronzed. Remove from the frame and wash and dry the print. When dry, paste it on the fan with a very thin coating of paste, applying the paste to the fan rather than to the back of the print. Trim the edge and bind with blue lute string ribbon or with blue paper the colour of the blue print. Vein the leaves with French blue in very light, delicate lines.

Another way of decorating the plain part of the paper is to mask the print, put it in the frame, and scatter rice or kernels of corn on the glass. Set it in the sun until the paper is well bronzed. Brush off the rice and hold the frame in the sun just long enough to turn the white figures a little, and then wash and dry the print. The design will then have light blue figures on a dark blue ground.

Japanese rice paper sensitised with the blue print solution makes very pretty fans, the soft, yellowish tone of the paper harmonising well with the blue.

Cardboard photograph frames may be covered with blue print paper, on which has been printed appropriate designs. At one of the lower corners of the frame might be printed a small marine view, and in the opposite corner some reeds or marsh grasses, while the top might show a cloud effect. Print in the clouds very lightly, so that they will look as if done in water-colour.

Dinner and luncheon cards may be very charmingly decorated with blue-prints. Take celluloid squares; sensitise them with the blue-print solution, and print on them pictures of boats or water scenes. These cards are also very pretty cut into panel shape and decorated with a long, slim picture. The name of the guest may be printed on the card with gold water-colour paint, or in French blue to match the colour of the print.

Another dainty card is made of Whatman drawing-paper, sensitised with blue-print solution, and cut into small oblongs. Print a picture on the card, and when washed and dried attach it to the centre of a cream-white ribbon the width of the card and three times its length. Paste a plain card to the back, and on this letter the name of the guest, and the date of the luncheon or dinner. Arranged in this way the ribbon comes between the card and the print, and later may be used for a book-mark. Instead of pictures, one may arrange tiny flowers or leaves on the plain glass of the frame, place the blue paper over it, and then print. The paper is flashed in the sun just enough to give a slight tinge to the design, and when the print is dry veins or markings of the leaves are outlined in pale blue.

The name of the guest may be printed on the card after this fashion: On a piece of thin, ground-glass, the size of the printing-frame, write on the ground side the name of the guest with India ink, or trace it with lampblack and a fine brush. Use it as a negative and print it on the card in the space reserved for it, of course masking the print on which the design has been made.

One of the prettiest things which I ever saw done with blue-prints was the decorations made for a boy's room. Unlike most boys he was very fond of blue, and like most boys he was very fond of boats and water. While he was away on a summer's outing his room was redecorated in a warm cream colour, with pale blue ceiling. There was a wainscoting in the room about five feet high, and above this was a band of blue-prints, the subjects being boats and marines alternating. Above the pictures was lettered in blue and gold: "I saw a ship a-sailing, a-sailing on the sea," etc. A tiny band of gold paper finished the prints at the top.

Plain opal plates may be sensitised with the blue-print solution, and printed after the manner of a photograph, and make decorative transparencies. Pieces of Japanese vellum sensitised with blue-print solution, and the pictures printed on the sheets with a wide margin, make up into interesting little booklets. Spoiled plates cleaned and cut into sizes for a glass box may be decorated with blue-prints applied to the glass by optical contact.

In short, Miss Wade, in the *Photo Era*, from which we quote, says there is no limit to the uses of the versatile blue-print.

FORTHCOMING EXHIBITIONS

SOCIETY.	OPENS.	ENTRIES CLOSE.	SECRETARY.
Coatbridge P.S.	October 17	September 28	The Secretary, Ailsa Cottage, Coatbridge, N.B.
Isle of Wight P S.	October 21	October 13	J. H. Burgess, 53, Pyle Street, Newport, Isle of Wight.
Belfast Y.M.C.A.	October 28	October 14	D. J. Hogg, 3, Trinity Street, Belfast.
Frome M.I.	November 5	October 24	Bernard J. Mitchell, 3, Willow Vale, Frome, Somerset.
Hackney P.S.	November 11	October 26	Walter Selfe, 70, Paragon Road, Hackney, N.E.
Braintree and B.C.C.	—	October 30	W. P. Dreaper, Coggeshall Road, Braintree
Friary Bazaar	—	October 31	H. Sharp, 105, Muster's Road, West Bridgford, Nottingham.
Sheffield P.S	November 17	November 3	J. W Charlesworth, 1, Joshua Road, Sheffield.
Sunderland P.S.	November 18	November 2	W. E. Kieffer, 1, Stirling Street, Sunderland.
Southsea P.S.	November 18	—	F. J. Mortimer, Pembroke Road, Portsmouth.
Tunstall	November 18	November 7	C. J. Eardsley, High Street, Tunstall, Staffs.
Edinburgh P.S.	November 21	November 7	J. S. McCulloch, W.S., 3a, North David Street, Edinburgh.
Hove P.S.	December 2	November 23	A. R. Sargeant, 55, The Drive, Hove.
Glasgow E.A.P.S.	November 28	November 23	A. Walker, 80, Garthland Drive, Dennistoun, Glasgow.
Southampton P.S.	December 11	December 2	S. G. Kimber, Oakdene, Highfields, Southampton.
Chicago S A P.	December 29	December 15	Society of Amateur Photographers, The Art Institute, Chicago.
South London P.S.	March 5	February 20	W. C. Marshall, 41, Glendon Road, Lee, S.E.
North West London P.S.	February 11	January 28	J. S. Fairfoull, 13, Addison Road, Walthamstow.

Correspondence

For the free discussion of all matters of general interest to Photographers

The Editor is not responsible for the opinions of his correspondents.

AURANTIA.

Sir,—It may interest you to know that the coal-tar dye, Aurantia, which frequently finds a place in orthochromatic light-filter formulæ, is not now obtainable, its manufacturers (the Berlin Aniline Co.) having withdrawn it from their lists. Yours, etc.,

ARTHUR G. H. ELDER.

LIQUID GLUE IN CAMERA CONSTRUCTION.

Sir,—A few days since a very able worker in the West Surrey Photographic Society came to me with a very woe begone face, and when I listened to his tale of woe I did not wonder at it, for this gentleman had purchased a splendid new fit-out, fit for a king. Lenses of the best make, and everything for use. He had just returned from Italy in high glee, with heaps of good things. Fancy his dismay when developing the last taken of his plates to find nothing but fog and dark bands. Having obtained his dark slides, I sat down to unravel the mystery. Upon examination of his plates I found each was a complete copy of the interior of his dark slides, and I came to the conclusion that the makers had used liquid glue because of its adhesive powers in making them. To test this I went out and purchased four bottles of liquid glue. I cut a piece of white wood the size of a half-plate. I then with a brush wrote the name of the maker with his own glue upon the wood, placed it in a plate box, and placed it in my dark room for forty-eight hours in the dark.

I then developed it in the usual way. I expected to see the plate fogged, but I did not expect that I should obtain a negative with all the names readable and printable upon bromide paper.

This being a matter of the greatest importance to your readers and the makers of cameras themselves, may I ask you to test it yourself. I have in a sealed package sent you by this post enclosed the piece of wood with the names written with the different glues just as I did them before. Over this, raised by a piece of cardboard, I have placed a Warwick Rainbow plate (backed) Will you, sir, on the 10th or 11th open it and develop the plate, and you will obtain a negative, and will perhaps give us your experience next week.

It seems so strange that a maker should turn out a camera in splendid form as to workmanship, etc., and then spoil the whole by using a glue that renders work impossible, either by the expert or the tyro. Is it ignorance or thoughtlessness? If the best Scotch glue with a little oxide of lead (litharge) will not do, what will? Has formaline or even alum been tried by test? Certain it is that oxide of lead used in the glue will make a joint that will stand anything, and I should say formaline would act equally well, but liquid glue is impossible.

If a few drops of hydrochloric acid be spilt upon a bench it will eat away steel tools mouths afterwards, as I have found to my cost. And it is the greatest of folly to use a glue made with these or kindred acids either for making or the covering of cameras. It is death to photographic plates. Yours, etc.,

ROBERT HENRY BASKETT.

[On development on the 14th inst. we got a good negative of the lettering on the wood, the lettering being the part on which was the deposit.—ED.]

THE DESECRATION OF CONSTABLE'S COUNTRY.

Sir,—As one who has for many years made an annual pilgrimage to the lovely Vale of Dedham, I was much interested in Mr. Gough's article and beautiful pictures in your last issue. I found myself in sympathy too—as who would not?—with his indignation at the vandalism which has replaced the old bridge with the structure which now occupies its place.

Mr. Gough is very severe upon the "parochial idiot," and his indignation is righteous, but sad as it is to see the old landmarks disappear one by one, it is difficult to see how it is to be avoided, unless a society were formed with ample funds at their disposal to secure the preservation of the picturesque.

In this particular case the old bridge became very unsafe, and apparently the local authority either *could* not repair it, or possibly *would* not—for "a prophet is not without honour, save in his own country"—and finally the bridge was closed. Those who, like the writer, drove into Dedham at that time, and found that they must turn back and make a detour of two or three miles, were in no mood to admire the picturesque uselessness of the old bridge, and were not inclined to be too severe upon the Essex County Council when they finally stepped in and built, or shall we say "perpetrated," the present structure. One does not look for sentiment and poetry in such an eminently respectable body as a County Council, but if those scarcely respectable qualities *had* been present how differently would the work have been done!

But there is a humorous side even in this. The old bridge being declared unsafe, the County Council had it destroyed and built a splendid (!) structure with nice red bricks and iron girders, calculated to carry any weight. Now the approach to this bridge—the *only* approach be it said—is over a very old and rickety bridge, only a few yards from the new one, which spans a small stream running into the river, and this bridge bears the legend, "Unsafe for heavy traffic."

One of these days the beautiful logic of the situation will dawn upon someone, and another old landmark will be destroyed unless in the meantime something can be done for this and similar relics with which Rural England was once so rich.

Yours, etc.,
H. F. TAYLOR.

A SUGGESTION.

Sir,—While having my photograph taken at a city studio the other morning, I was wondering why a mirror should not be fixed above the camera or on the wall facing the "patient," so as to enable the latter to see how he is looking or how he would like to look!

The idea is, perhaps, not a novel one, but I have never seen it applied anywhere.

All rights reserved.
Yours, etc.,
LEON HEYMANS.

THE R.P.S. LOAN EXHIBITION AND THE SALON.

Sir,—I regret that in my letter criticising Mr. Evans's defence of some of the members of the Linked Ring, a serious slip occurred. In speaking of the acceptance of pictures at the Salon, the phrase "one per cent." should have been "ten per cent." This is self-evident, as the number of frames submitted each year is generally given in one of your contemporaries, and the number of exhibits can be compared by anyone who has a catalogue.

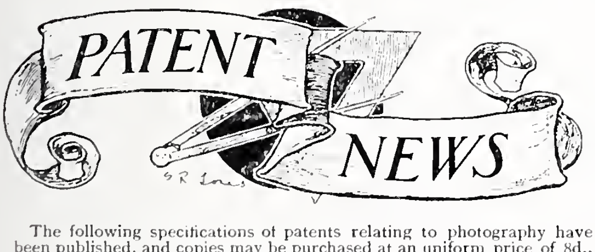
I should have written making the correction last week, but absence from London prevented me from writing until too late for your last issue.

Mr. Craigie gives the proportion of accepted pictures as higher than this, but he includes foreign exhibitors who are not members. This is scarcely correct, as many of these send in response to definite invitation. My remark was in regard to those who sent in response to the general invitation, British non-members.

This letter gives me the opportunity of making a further correction, for which your printers are responsible. My letter was not intended as a criticism of the Linked Ring as a body, but rather of Mr. Evans's account of their action, for in defending them against a general charge of petty meanness, he made them appear in a worse light than their opponents had stated. My letter, in criticising their action, added, "if Mr. Evans's letter correctly describes it." Unfortunately, your printer separated this clause from the preceding sentence, and made it commence the next, completely destroying its saving character.

It is to be regretted that Mr. Craigie did not officially disassociate the Linked Ring from Mr. Evans's account of their position in regard to this question.

Yours, etc.,
HENRY W. BENNETT.



The following specifications of patents relating to photography have been published, and copies may be purchased at an uniform price of 8d., at the Patent Office, Sale Branch, 25, Southampton Buildings, London, W.C. The price of the specifications includes postage to any part of the United Kingdom. The additional postage to foreign countries is usually ½d. per specification. Postage stamps must not be sent on payment of any amount exceeding 11d. In ordering the name of the patentee and both the number and year of the patent must be given.

1902.

20,773.—Franklin. Kinematographs.
20,909.—Evans. Photo-etching or photo-lithography.
21,932.—Ballantine. Mounts.
23,201.—Bartlett. Cameras.
27,177.—Mieth and Traube. Panchromatic plates.

1903.

13,040.—Kuckelkorn & Saupe. Film developing apparatus.
15,339.—Herz. Film developing, fixing, etc., apparatus.
15,829.—Trautmann. Flashlight apparatus.

IN THE WARWICK COMPETITIONS the £10 prize was taken by Mr. C. J. Reade, and £5 prizes by J. B. Anderson, V. C. Baird, T. L. Lambert, B. J. Mitchell, and R. Townsend.

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THE BAUSCH AND LOMB OPTICAL CO.'S $3,000 photographic competition closes in America on Oct. 1st, so that it is well that competitors should send in their entries to Messrs. Staley and Co., of 35, Aldermanbury, forthwith, as they have to be sent out to America by them so as to be there not later than October the 1st.

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WE HEAR OF A WEST-END DEPOT MANAGER who will shortly be open for re-engagement. He is thoroughly in touch with the amateur photographic buyers, and has a knowledge of the trade extending back many years. Any communication respecting this matter if addressed to O, care of our London Office, will be forwarded.

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A SERIES OF ALDIS LENSES is shortly to be put on the market. We are told they are of the same general construction as the f/6. Series II., but specially designed and corrected for affording a greater covering power with slightly reduced rapidity for those workers who do not require the rapidity of the f/6 series. The new series No. 7 fits the ordinary 5in. by 4in. Unicum shutter, and will cover at full aperture, f/7.7, a half-plate. We hope to give fuller particulars when we have had the lens under trial.

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SELF-TONING COLLODIO-CHLORIDE.—The *Allgemeine Phot. Zeitung* gives the following formula for a paper, which after printing only requires fixing in the usual hypo bath. In three ounces of two per cent. collodion dissolve five grains of gold chloride, three of lithium chloride, and three of strontium chloride. Emulsify with forty grains of silver nitrate dissolved in alcohol and the least quantity of water necessary. A slight colouring of the emulsion with eosin and picric acid is very conducive to good tones.

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THE BOWES PARK AND DISTRICT Photographic Society propose to visit the exhibition of the Royal Photographic Society *en masse* on some specific occasion, and we think the proposition is one which might well be followed by other societies within reasonable distance of London. The syllabus has been issued, a member's exhibition arranged for the 4th of January in the new year, and the Society has every sign of a prosperous session. Particulars can be obtained from the honorary secretary, Arthur Kernon, 26, Grenig Road, New Southgate, N.

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THE BOROUGH POLYTECHNIC PHOTOGRAPHIC SOCIETY for several years has included a complete course of elementary lectures in photography in its winter programme. This covers six months and contains twenty-four lectures, delivered every Friday evening at 8.30, commencing on October 2nd. These lectures are in addition to the society's ordinary meetings on Wednesdays. We learn that ninety-six new members joined the society last season, attracted almost solely by the course of instruction, full particulars of which can be obtained from the honorary secretary, Mr. P. C. Cornford, 103, Borough Road, London, S.E.

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MR. JAMES A. SINCLAIR has always enjoyed a position in the photographic retail trade of a character almost unique. Much of this has been due to his own charm of manner, and much to his ability as a picture maker. It is not everywhere that one can enjoy purchasing a camera from a man who has won "the blue riband of photography"—the R.P.S. medal—three years in succession, as Mr. Sinclair alone has done. We now learn that he has resigned the position he has held for the last five years as manager to Messrs. Ross, Ltd., at their Cockspur Street branch, and is about to open at 54, Haymarket, London, W., on his own behalf. We wish him at his new premises, which are nearly ready for occupation, all the success which he thoroughly well deserves.

SNAP SHOTS.

JASPER REDFERN, LTD., is a new company with a capital of £500,000 in £1 shares to acquire the well-known business of Jasper Redfern, of Sheffield. There is no initial public issue.

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"THE RAMBLES OF A GREEN HAND IN A GREEN LAND, or three months' hard labour in search of rest," a lantern lecture by Mr. Tylar, was delivered on the opening night of the session before the South London Society.

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MR. JOHN H. AVERY will, we understand, be in charge of Messrs. Wellington and Ward's exhibit at the R.P.S., where he is looking forward to renewing the acquaintance of many of his photographic friends whom his absence during his attendance on the Sultan of Morocco has prevented him from seeing for some years.

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PHOTOGRAPHERS IN BRENTFORD and the neighbourhood are reminded that the annual meeting of the Brentford Society will be held on Tuesday, the 6th of October, at the Brentford Public Baths. All interested in photography are invited to attend. The free summer course of the society has been very successful, and has helped to add to the membership roll.

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THE WINTER SESSION of the Isle of Man Camera Club commences early in October. Lord Raglan, the Lieut.-Governor of the Island, has consented to be patron of the society, and Deemster Kneen and A. W. Moore, Esq., Speakers of the House of Keys, are vice-presidents. The honorary secretary, Mr. W. H. Skillicorn, "will be pleased to receive an offer from some photographic specialist to fill in an evening during the winter." We should think he would.

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FROM THE "ANGLERS' NEWS" comes a story of a remarkable mixed basket taken by Mr. Bernard Alfieri on the Colne near Rickmansworth. Mr. Alfieri, who is well known to our readers doubtless by his pictorial work, and who has a business connection with photography also through his position as advertisement manager to Kodak, Ltd., was fishing with two hooks, and found that he had hooked a perch and a roach at the same time. As he was about to lift the two fish out of the river by means of his landing net, there was a commotion in the sedges along the bank, a water hen darted out, and somehow or other found its way into the net. A perch, a roach, and a water hen in the landing net at once should form a record.

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COUGH MIXTURE AS A DEVELOPER. Having accumulated a few spools of exposed film, says a veracious correspondent, I decided to develop some the other night. I unrolled a dozen, and made a start in some developer which had been previously used. The pictures appeared slowly, but I discovered the developer was nearly all absorbed, so asked a friend to add some fresh to it. He did so, but after developing for over an hour, the negatives did not seem to improve. I eventually got disgusted, fixed them, and hung them up to dry. The following morning my friend, on going to take a dose of medicine, found the bottle to be nearly empty. We have decided that Mr. Jones's cough mixture may be all very well in its way, but as a developer it is not altogether a success.—A. E. L., Australia.

THE GLASGOW EASTERN AMATEUR PHOTOGRAPHIC ASSOCIATION holds an entertainment on Thursday, the 1st of October, in aid of the funds of the association, tickets for which are 6d. and 1s. respectively. Full particulars can be obtained from the honorary secretary, A. Walker, 80, Garthland Drive, Dennistoun, Glasgow.

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THE ARCHITECTURAL POSTAL PHOTOGRAPHIC CLUB, formed in 1897, has vacancies for one or two members. Portfolios devoted entirely to architecture circulate monthly. The annual subscription is 1s. 6d., and applications for membership, accompanied with specimens of work, should be sent to the honorary secretary, Mr. J. E. Underwood, Devonshire Square, Loughborough.

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THE TONE OF AN ORDINARY BLUE PRINT, according to the *Archives de Photographie*, may be converted into the grey-black of a platinotype print in the following way: The finished blue print is first placed in a weak silver nitrate solution of the strength of one part in five hundred of water (one grain to the ounce approximately). This treatment causes the image to fade, as a double cyanide of iron and silver is formed. The print is now placed in running water for a few minutes till the last trace of silver nitrate is removed. It is then developed in a solution of ferrous oxalate, such as is ordinarily employed for bromide printing, then washed with very dilute hydrochloric acid, and next in weak ammonia (one in a thousand).

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THE LEEDS TECHNICAL SCHOOL announces its classes in the principles and practice of photography, the lecturer being Mr. S. E. Bottomley. The elementary class is on Mondays, commencing September 21st, and the advanced class on Thursdays, commencing September 24th. On each evening there will be one hour's lecture with practical demonstrations, commencing at 7 o'clock, followed by practical work in the laboratory from 8 to 9.30. The course is specially arranged to meet the requirements of both amateur and professional photographers. It is intended to give them a thorough knowledge of the principles underlying photography, and last year was most successful, many of the students passing the City and Guilds' examination.

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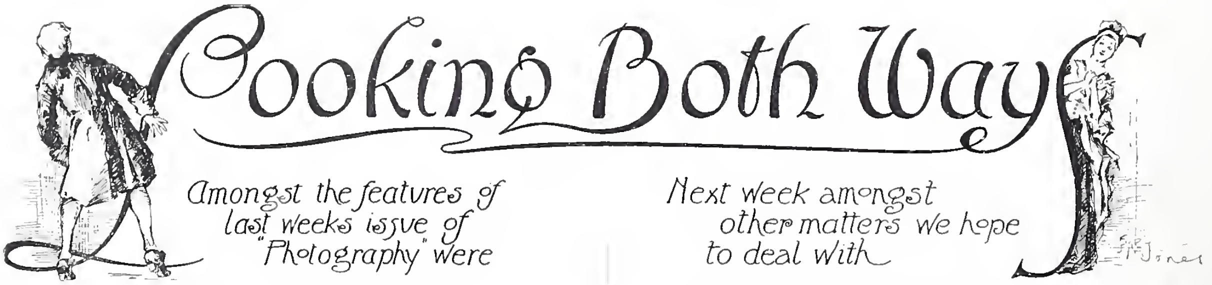
ETCHING ON GLASS. For permanently labelling glass bottles, or for decorative purposes on glass, the simplest method, and therefore the best, is undoubtedly the sandblast, but to the photographer this is not ordinarily available. The *Pharmaceutical Era* upon this subject says that the ordinary method of etching with hydrofluoric acid is not suitable, since the etching is transparent and requires filling in with an opaque wax or varnish. The following is given as an excellent etching ink, easy to use, and legible in its results: Ammonium fluoride, 2 drams; barium sulphate, 2 drams. These are powdered finely, transferred to a lead dish, and made into a thin cream with hydrofluoric or fuming sulphuric acid, using a strip of lead to stir the mixture. The ink may be put up and kept in glass bottles coated with paraffin, which may be easily done by heating the bottle and putting some melted paraffin wax in it and rotating the bottle until the whole surface is coated. The writing is done with a quill, and in about half a minute the ink is washed off. Care in handling is necessary, as painful and troublesome sores are produced by contact with the skin.


Looking Both Ways
Amongst the features of last weeks issue of "Photography" were
Next week amongst other matters we hope to deal with
F. M. Jones

Tinting transfer paper for carbon work.
Vidil films.
How to use old Velox paper.
A military expedition in Morocco.
Wet summer effects.

The distribution of the image in the Cristoid film. With photomicrographs by E. Senior.
Special critical review of the two exhibitions. This will be in two parts, the second part being given a week later.

QUESTIONS AND REPLIES

Readers wishing for information upon any specific point in connection with photographic theory or practice are invited to make use of the "query form," which will be found amongst the advertisements. All enquiries must comply with the conditions stated upon the query form; those which do not do so are neither acknowledged nor answered. All enquiries are answered by post. We cannot undertake to make replies in the paper. We print below from time to time a selection from the queries we receive, and our replies.

PINK TONES ON P.O.P.

Please say why the enclosed photographs are so pinky? They are toned with the usual sulphocyanide gold bath.

Sulphocyanide as a toning agent is always treacherous. The pink colouration may arise from the gold being acid, in which case a pinch of chalk added to the stock bottle will put it right. From the appearance of the print it is much more likely that the paper has been handled in too bright a light. By working in a subdued light and not allowing full daylight to fall upon the paper except through the negative, the fault will probably disappear.

ENLARGING WITHOUT A CONDENSER.

I am making an enlarging lantern, but do not wish to go to the expense of a condenser. I propose to have a Welsbach mantle with a sheet of ground-glass between it and the negative. Do you think the arrangement will illuminate the screen equally?

The proposed arrangement will work better if two lights are placed side by side, and if two or more sheets of ground-glass are used. The first sheet of glass should be near to the lights, and the second about half an inch in front of the first. If the two sheets are not sufficient to diffuse the light, a third may be used, but will absorb a large proportion of the light and lead to prolonged exposures.

RUST IN THE WASHING TANK.

Does rust in a washing tank have a bad effect on negatives and prints? If so, what can I paint the exposed metal?

Rust in the washing tank is always troublesome, and may lead to spots and markings on the negatives and prints. Hypo will attack the bare metal and soon cause a leak. A good hard-drying bath enamel will protect the metal, but before it is applied all loose pieces of paint caused by the spreading of the rust should be chipped off and the rust scoured away with a strong solution of caustic soda and a brush. The tank should then be rinsed out with boiling water and rapidly dried. Unless these precautions are taken the rust will continue to spread and other bare places be caused.

STAINED FILMS FOR THE DARK ROOM LAMP.

Mr. Sanger Shepherd is quoted as recommending two gelatine-coated plates to be dyed, one with naphthol yellow, the other with aurantia, as a suitable means of glazing the dark room lantern. One plate is to be coated with fuchsine-stained collodion and the other with collodion stained with brilliant green G. Please say how the saturated solutions are made, the grains required for each ounce of solution, how long the gelatine coated plates should be immersed in the dyes, and how the stained collodion is applied? Should the two plates be sealed together with Canada balsam?

To make the saturated solutions, place a few grains each of naphthol yellow and aurantia in separate bottles with water sufficient to flood the plates, and shake till no more of the dye will dissolve. If all that is first put in completely dissolves, add a little more. Then allow the solution to stand till the undissolved dye has subsided and decant the clear liquid. The collodion is saturated in a similar manner. The gelatine-coated plates are placed dry in the aqueous solutions and allowed to remain till they have absorbed all the dye they will, and are then dried. The dried plates are coated on the gelatine side with the stained collodion precisely in the same way that a plate is varnished. A pool of the collodion is poured on at one end, and by tilting each corner downward in turn the whole surface is covered evenly. The two plates may be cemented together with Canada balsam, but the process is troublesome in large sizes, and is quite unnecessary. If it is desired to bind them together it may be done by applying lantern slide binding round the edges.

SATURATED SOLUTIONS.

An article on toning P.O.P. contains the phrase "saturated solution of borax." Can you tell me the meaning? Is a saturated solution always of the same strength? The writer of the article does not give the quantities of borax and water.

A saturated solution of any chemical means that as much of the salt as the water will take up has been dissolved. The amount varies with the temperature, so that a saturated solution is by no means a fixed standard. Still it is convenient for some purposes. One ounce of borax by weight is soluble in about twelve and a half ounces of water at a temperature of 60° Fahr. A saturated solution is made by tying the borax in a muslin bag and suspending it just below the surface of the water. As the salt dissolves, the heavy solution sinks to the bottom of the bottle or jar, leaving the less saturated water in contact with the salt.

SELECTION OF CAMERA, LENS, ETC.

Should you advise the selection of a magazine box-form hand camera or one fitted with slides? Is it advisable to have a lens working at a larger aperture than f/6? Do you consider it necessary to have a shutter working at a higher speed than one-hundredth of a second for general work? I do not want it for portraiture as that is my business.

The type of hand camera to be selected depends very much upon the preferences of the user and the work that is to be done. The magazine box-form has the merit of being always ready for use. The folding type takes half a minute or so to get into action, and is, perhaps, a trifle more conspicuous while in use. On the other hand, it is much more compact; a quarter-plate in some designs may be carried in the pocket, and when carried in the hand attracts very little attention. One hundredth of a second is quite fast enough for all but very special work. The Unicum shutter, which is fitted to many different patterns of cameras, gives exposures ranging from one second to one hundredth of a second. F/6 used with a rapid plate makes a very wide range of subject possible. A lens with a larger aperture is practically a portrait lens, and has the disadvantages of that type of instrument for general work if used at the full aperture.

NOTICE TO ENQUIRERS.

Answered by post: G. J. T., G. H. Greenfield, A. Crossley, F. J. E., B. Bixfield, J. Brough, Amidol, S. T. E., A. Harrison, G. H., W. F., W. Messent, Combined Bath, Puzzled, J. F. Slack, Exposure Meter, Mrs E. S. Robinson, J. H. G., K. A. P. L., Basil Smith, T. W. Cookson, Films, G. J. Ponsford, A. H. Broadbent & Co., S. Shackleford, F. E. B., S. Hayter, Constant Reader, W. H. Wroughton, W. Walker, Grateful, R. Vallentin, Frena, W. S. G., J. Whiteley, Richardson Green, and Co., Liverpool, Miss Vandeleur, Dalradia, A. C. Smith, H. E. Pyle, Alf., T. R. Watkinson, Professional, J. S. Prince, G. Maychell, Drowned Out, J. S. W., T. Biddeley, N. E. Y., Theodore Cross, T. A. Scarlett, Burnisher, W. E. Troughton, Self toning, F. B. S., H. C. Laycoth, C. J. G., Lean to, Edinburgh, Cloud Negative, L. S. Dring, Beryl, W. Clarkson, Subscriber, P. W., Apprentice, Churston Hyne, H. Leith, Colour Screen, Adie, G. T. Grant, Rejected, M. S. A., Jervis Borwick, Anastigmat, S. D. W. Ommaney, Thos. Hudson, W. F. C., An Exhibitor who Asks for Fair Play, T. B. Potter, Anon, Chippenham, J. Sutton.

Orthochromatic Photography without using Screens.

BY T. THORNE BAKER. Special to "Photography."

THERE is a discussion that comes up repeatedly at certain photographic societies, and a question that frequently arises in the minds of certain photographers, embodied by the title of this article, and I shall endeavour to answer it as far as possible by theoretical means, for a practical proof of the correct answer may readily be obtained if only fair tests be given in making the respective exposures.

The two facts I would point out, and for which purpose this article was written, are as follows: (1) A perfect orthochromatic effect is not, and never will be, obtainable with any orthochromatic plate without a screen under *all* circumstances; (2) when exposing through a screen the same effect cannot be obtained with an ordinary plate as with a "colour-sensitised" plate.

If two ordinary plates be sensitised, one, which we will call A, with Pluto-black, the other one (B) with erythrosine, we shall have now two orthochromatic plates, A being chiefly sensitive to red, orange, and blue, slightly to yellow and green, and B very sensitive to greenish-yellow and blue, scarcely at all to orange and red. Here then are two plates distinctly different in colour sensitiveness, but both are "orthochromatic"; thus obviously it is not possible to get the same rendering of the same subject with each plate, unless an appropriate filter be used with each.

The plates upon the market which are the most suitable for working without a screen are certain brands which, when the spectrum is exposed upon them, give a very vivid or strong band for yellow or yellowish-green. Most of the colour-sensitised plates produced by manufacturers give, when a photograph of the spectrum is taken upon them, a darker band for yellow or yellowish-green than any other colour. But it must not be assumed from this that they will represent yellows lighter in the print than blues, when no screen is used. The ratio of visual intensity of spectrum blue to spectrum yellow is pretty well that of dark brown to white—the spectrum blue and bluish-violet is so dark. In nature, however, we should class sky-blue and perhaps lemon-yellow together as being of about similar visual intensity, and I think I am correct in saying that no orthochromatic plate that was ever made would give these two of the same density in a negative, if it were possible to take them side by side. It is possible to sensitise a plate with chinoline red and acridine yellow so that after an average exposure to the spectrum only red, orange, and yellow appear on the negative. Yet if the same plate be exposed to a picture containing some blue cornflowers, yellow buttercups, and red roses, on the resulting print one would get the cornflowers almost white, the buttercups grey (dark), and the roses just as black as if an ordinary plate had been used.

In the accompanying diagram I have indicated roughly the curves showing the relative sensibilities to different parts of the spectrum of five varieties of plates; the fifth has yet to be found! I must give Dr. Schleussner his due, and say that his plate is the one that comes nearest the mark—that at any rate is my own experience. But on the other hand I still emphasise the fact that every plate wants a screen when the subject contains blues and yellows together.

The plate bathed with erythrosine is more sensitive to greenish-yellow than to blue as far as the spectrum is concerned, yet natural yellows and blues have entirely the opposite effect in actinism. The Gem colour plate is fairly equally sensitive to all colours except red according to the spectrum, but similarly, unless a screen be employed with it, blue of equal visual intensity with yellow will give a much darker result in the negative.

A conclusive explanation of this may be summed up as follows. However highly sensitised a plate may be for yellow, it will still be infinitely more susceptible to blue, and, therefore, "though it may give correct renderings of yellows and greens, blues will still come out nearly white in the print, or, of course, very dark in the negative." Consequently, *provided the subject contain no blue*, a full orthochromatic effect *can* be obtained without a screen. This is assuming always that a suitable plate be used.

It remains a question, therefore, whether it is preferable to use a plate highly sensitised for yellow and discard the screen when blue is not present, or to employ a plate fairly equally sensitised for all colours, so that screens of different tints can be used to accommodate any circumstances. In working with Gem colour plates, which are sensitised as equally as possible for blue, green, and yellow, I have found that the exposures required are much the same, whether a green or yellow screen is employed. And one would certainly think that, if the blue actinism were damped so that blue, green, and yellow of equal brightness gave equally dense records on the negative, the most nearly perfect effect would be produced. This is equivalent to saying that a screen *must* be used in order to lower the chemical action of the blue rays.

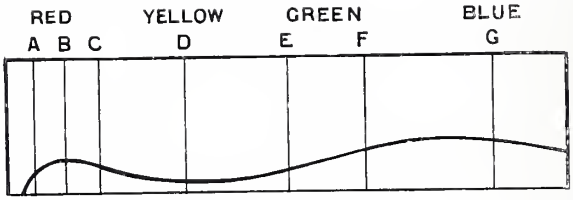
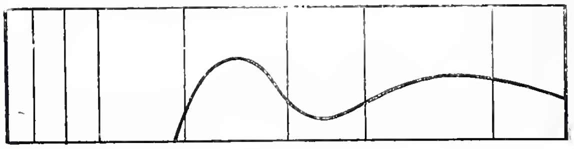
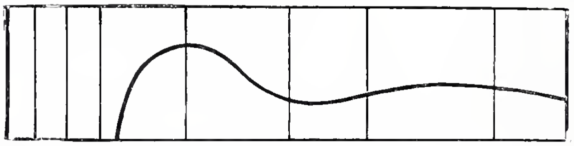


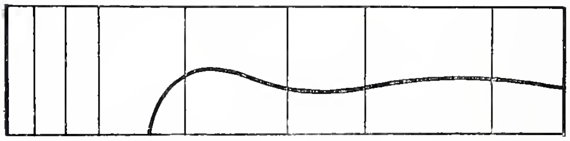
Plate dyed with Pluto Black,



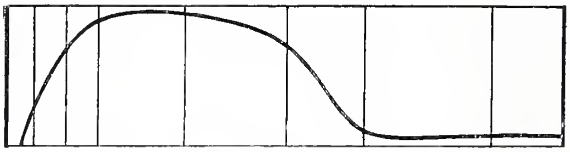
Dyed with Uranine.



Dyed with Erythrosine and Silver.



"Gem" Colour Plate.



Ideal Plate for use without screen.

That, in short, is the point to which I am coming. It cannot be denied that a blue and yellow object of equal visual brightness would photograph dark and very light respectively (and comparatively) even with the "best orthochromatic plate in the world," whosesoever that might be. Hence it is essential to reduce the chemical effect of the blue.

Now, this can only be accomplished in two ways:

(1.) By dyeing the emulsion to such an extent that its speed is diminished x times.

(2.) By employing a screen, which requires an increase of exposure to y times normal.

To this may be added that x and y would be approximately equal, and, further, that method (1) is not perfect, nor very practicable.

In conclusion, I would point out that for all purposes an orthochromatic plate is the best to use, whether with or without a screen, but in order to obtain a full orthochromatic effect a screen must be used, except in that exceedingly rare case, if ever there be one, where no blue exists in the picture.

Photographic Business. A Hint for the Professional Photographer.

The Strauss Studio at St. Louis is recognised in the United States as being run upon the smartest of business lines. Dundas Todd, the Editor of the "Photographic Beacon," has been calling on Mr. Strauss, and gives in his journal an account of one of the new methods he found in operation there, from which we quote.

ALL photographers realise that their occupation naturally divides itself into two parts, the technical and the business departments, and it is well known to everybody that while many men excel in one branch or another, the combination of both is unfortunately rather rare. It is a well-known fact that photographers may be readily classified under four headings: those who are excellent photographers but naturally poor business men; those who are neither good photographers nor good business men; those who are good business men but poor photographers; and those who are both good business men and good photographers. The first generally make a moderate living; the second prove to be failures; the third are apt to make money; the fourth are the most successful men in the profession.

Mr. Strauss, of St. Louis, is one who happens to be both a good business man and a good photographer. I happened to be in his studio recently, and found a new addition in the shape of a large handsome album that reposed on a substantial but plain stand in one corner of his reception-room. I at once began turning over the leaves and found that it contained about a couple of hundred 10in. × 8in. platinum prints of members of the male sex, evidently of various ages. Below each was written the individual's name and two dates, which I interpreted to mean that those whose portraits were found therein had departed this life.

Around the walls of the reception-room are to be found, in panels, about eight hundred portraits of gentlemen, all of the same size, namely, 8in. × 10in. prints. This idea was started when Mr. Strauss opened up this new studio some half-a-dozen years ago and went by the title of the "St. Louis 400," and in the collection were to be found the men who had attained eminence in the business and professional circles of the city, and it soon became almost essential for any man of standing in the community to have his portrait included in the set. My readers will at once see the importance of this to Mr. Strauss from a business standpoint, because, while it was not expressed in so many words, he, nevertheless, adhered to a rule that no one's portrait should be added to this collection unless the gentleman invested in one dozen of the prints of this size, which meant an expenditure on his part of at least £14, so that the presence of eight hundred individuals' portraits on the walls at the present time indicates that Mr. Strauss drew from this source at least £11,200—quite a nice little sum to come into the coffers of the business, and that, too, from men, the sex that is notorious for avoiding facing the camera.

The gallery is devoted to living celebrities, and, therefore, on the decease of anyone, his portrait is at once removed from the collection, but Mr. Strauss soon found that he had to face another problem, because the near relatives of the deceased one naturally felt their feelings touched the next time they visited the studio, for they well knew the corner where their dear one's portrait hung, and on turning to the place found it now occupied by a strange face, and such remarks as, "Oh, you have taken down Ed's picture," were not infrequently heard in the reception-room. From a purely emotional point of view, Mr. Strauss did not like such comments, and there was also the business side to be considered, because, as every photographer knows, the negatives of deceased persons are generally valuable, more especially if the prints from them can be kept in evidence. The point became a very important one, and was discussed very frequently by the staff at the noon-day meal in the "growlery," and at last the "In memoriam" album was the outcome. It has proved very successful. It makes the transition from the wall into oblivion an easy one, because it permits the portrait to be in evidence for about a couple of years after the death of the individual, and by this time the raw sore is healing, and at the same time the album has proved to be even more interesting to visitors than the pictures on the wall and almost every visitor lingers over it talking about such of their friends as have their likeness therein, and Mr. Strauss finds bigger orders for the portraits of deceased people than he ever did before.

Ourselves as Others see Us.

IN the current issue of our contemporary *L'Information Photographique*, which has just come to hand, there is a review brought up to date of British and German photographic and allied industries, in which it is stated that the general impression on the Continent is that this year has been a bad one for England. But not only on account of the weather, which is said to have been unpropitious for photographic manufacturers, although the cool summer has been most favourable for plate making. The author states that it is extremely difficult to get English goods to sell, because almost invariably the directions sent with them contain English weights and measures, and the absence of standard international sizes of plates and cameras was given as another serious drawback.

As regards the latter question, however, we must say that most, if not all, British plate and paper makers who manufacture for the Continent put metric weights and measures in their explanatory literature, whilst, on the other hand, we do not remember ever having seen a foreign circular (sent with Continental goods into this country) provided with English weights and measures.

Our contemporary refers to the German chemical industry, the great growth of which, it says, it would be puerile to depreciate. Many causes are to be found for it—political, moral, economic, and scientific. The German nation, and especially those in high places, have shown confidence ever since 1870 that such progress would be made, and have furthered it by all means in their power. Amongst the moral causes are said to be the practical and not too idealistic spirit of the people, their talent for organisation, their habits of discipline, and desire to acquire supremacy in everything with which they are connected.

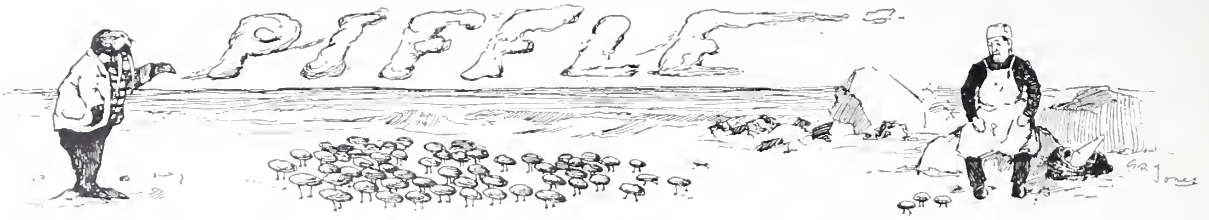
The system of chemical education which obtains in Germany, to which we had cause to refer some short time back, was bound to bear its fruit in due course, and repay the initial trouble and expense devoted to it.

An Exhibition of Colour Photography.

THERE is to be an international exhibition of photochromy next year in Paris. It will be held between February 15th and March 15th next. Several meetings and conferences will take place during the period of the exhibition.

There will be five distinct sections, as follows: (1.) Direct or indirect coloured photographs prepared in various ways, but obtained by the "immediate action of light." (2.) Pictures made by divers mechanical processes, typography, collography, illustrations in colours for catalogues, and so forth. (3.) Different kinds of apparatus, accessories and products specially made for colour photography, such as colour screens, sensitive plates, spectrographic cameras, etc. (4.) Designs or photographs of machines for printing in colours. (5.) Special works, publications, etc., devoted to the applications of photochromy.

Manufacturers or amateurs desirous of exhibiting or obtaining any particular information should communicate with M. le Président du Comité d'études photochromiques, 44, rue des Mathurins, Paris, before the 15th of November next. Every exhibitor will receive a commemorative diploma, but no prizes will be awarded.



"The time has come, the Walrus said, to talk of many things."

PROBABLY every reader has seen the account of the thunderstorm at Le Pont in the canton of Vaud, where twenty-five marksmen at a shooting match were bowled over by a lightning flash, and upon every one of them appeared beautiful photographs of the pine trees in the vicinity. It is to be hoped that none of those who read that account indulged in expressive coughs, or followed the example of the little vulgar boy who "put his thumb unto his nose and spread his fingers out." The account appeared in so many newspapers that anyone who requires sounder evidence had better invent it for himself.

* * *

The *St James's Gazette* attempts to remove any incipient incredulity from the reader's mind by reporting other similar instances which seem to show that it is quite usual for a lightning flash to be followed by a crop of flashlight photographs of trees, etc., upon the sensitive skins of people in the neighbourhood. It winds up with an account of a lady who was standing by a brick wall, and who had a charming photograph of a flower growing on the other side of the wall imprinted on her leg by a lightning flash. Well, it may have been so. But in some respects my sentiments are those of the rationalistic chicken in the poem, "What I can't see I never will believe in."

* * *

It is often urged against professional photographers that they are not up-to-date—they do not move with the times. Such a charge cannot be levelled against the devoted head of Mr. W. H. Stephens, the Newport (Mon.) photographer. He has hung out a sheaf of leaflets with an invitation to the public at large to take one. This leaflet bears a "Special snap shot by Stephens" of Major-General Baden-Powell passing through Newport, the greater part of the picture being occupied by an arm waving a hat. It's a braw hat and a brawny arm, but the Major-General suffers in comparison.

* * *

The subject then changes with a jerk—"Success to Sir Thomas Lipton and Shamrock III.," which should certainly hit the public taste to a T. Then follows this deathless verse:

Welcome to this land he'll be,
With the cup in sight, you see;
Waving in the gentle breeze,
  The name of Stephens, the stranger sees;
If you'll come in, you'll welcome be
For sittings in Cabinets or C.D.V.
So kindly come and patronise
Stephens with his "Shamrock" surprise.

The man who can write like that deserves better luck with his "Shamrock Cabinets" than Sir Thomas had with *his* Shamrock, for if he places any Reliance—but, there, the subject is too painful to pursue.

* * *

A ladies' paper gravely informs an enquirer how to *sterilise* silk and other fabrics, so that a photograph may be *transferred* to it.

Sterilise is most excellent good

* * *

One of the greatest difficulties with which the beginner (and the ender, for that matter) in photography has to contend is the question of exposure. Why should this be? Let me, in a few lucid lines, sweep away all difficulties, as I have done ere now in dealing with other knotty problems in these columns.

* * *

It is necessary, in the first place, to take into account the various factors upon which correct exposure depends. Amongst these may be mentioned the distance, size, and colour of the subject, the make and cost of the camera, the age and parentage of the operator, the time of day or night, and the year, the direction and force of the wind, the amount of water (if any), and the local water rate, the stop of the lens (if it can be stopped), the speed of moving objects and of the plate, whether the plate is backed and paid for, the position of the sun (or daughter, as the case may be), and whether the resulting print is intended for the American or the Hottentot school.

* * *

Having from these and other data calculated the necessary exposure, the shutter is set accordingly. It may be argued that the result arrived at may be incorrect. That is so. It may. But it must be remembered that the shutter will not give the actual exposure for which it is set, so it may turn out all right after all.

* * *

The inclusion of objects in motion involves the consideration of a further set of details. Thus, if the object is a horse, it is necessary to arrive at its rate of motion (clothes-horses barred). This is readily determined by multiplying the legs by the ears, adding the cubic contents of the animal in millimetres, and dividing by the square root of its pedigree.

* * *

With express trains the exposure depends on the line on which they run or crawl. For example: South-Eastern, one hour and upwards; North-Western, 357 millionths of a second; and so on. The result will be considerably modified if the operator stands on the track on which the train is travelling.

* * *

Flying birds, flying fish, and brickbats may be classed with projectiles, and dodged accordingly.

* * *

Ships are no longer available. Pierpont Morgan has bought them all.

* * *

Snails in transit require the same exposure as a messenger boy with an urgent telegram, while with men it depends on whether they are bound for the office or the club.

* * *

A few years' careful meditation on these points should render a photographer capable of making an exposure on any subject, and afterwards ascertaining, by development, whether it was correct or not. It is quite a simple matter.

* * *

X.Y.Z.—Yes, just so. The man who pockets the forks and spoons at a restaurant may be described as a plate-lifter, but the reference was to an article like a skeleton gridiron sometimes used for lifting a plate out of the developer and fixing bath. The latter saves the hands and cuffs; the former acquires the handcuffs.

* * *

There is no charge for this information.

* * *

A recent sale catalogue includes a Dallmeyer lens, *fitted with Newman and Guardia*; also a "High Life" hand camera. The latter may receive its name because it is primarily intended for the 'igh and 'aughty of the land, or because it is suitable for balloon work or for Alpine climbers. It's a fine name, and dirt cheap at five bob. I should say, shillings.

THE WALRUS.

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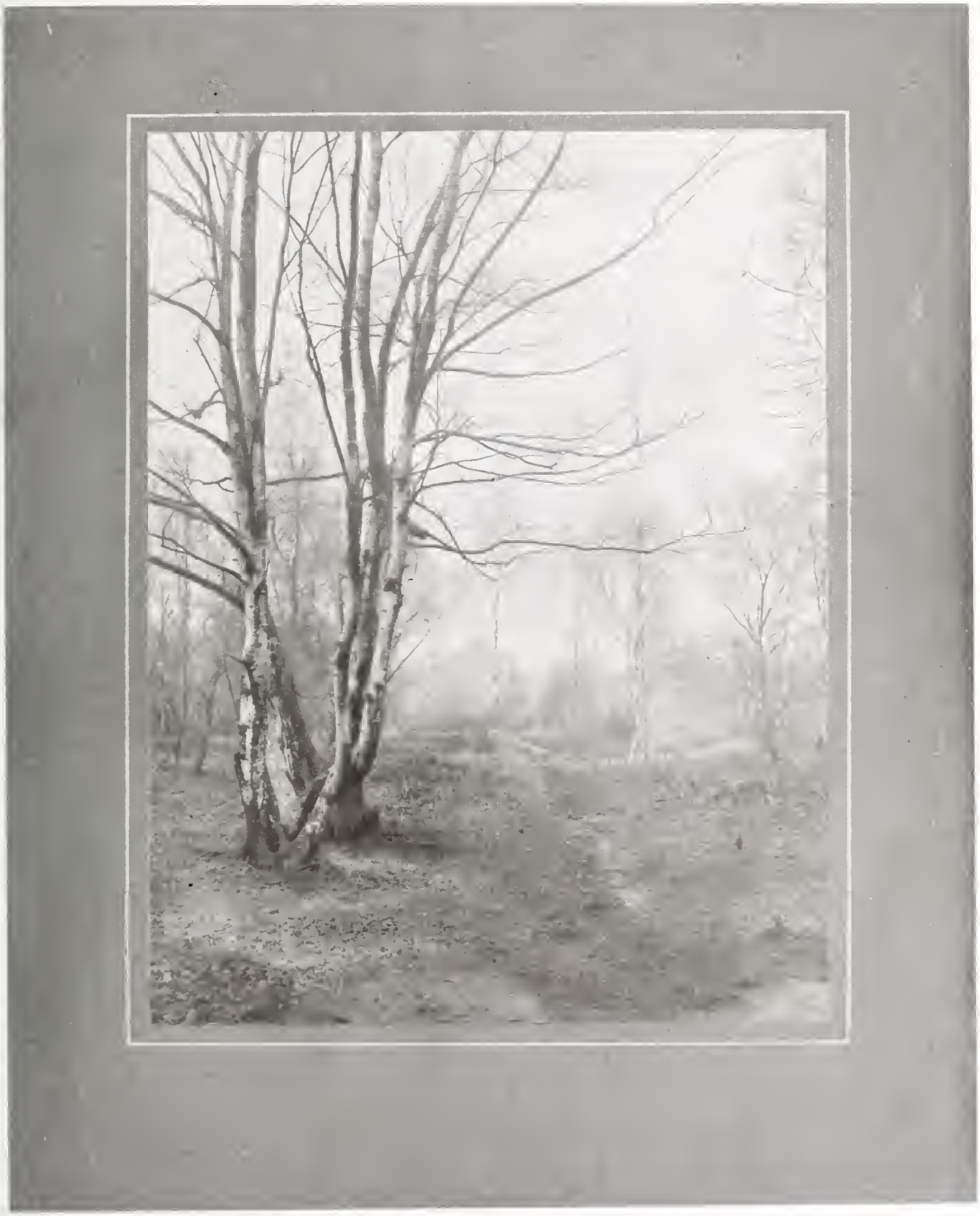
SPECIAL NUMBER REVIEWING THE SALON EXHIBITION.



EARLY MORNING ON PAUL'S CRAY COMMON. BY ERNEST CURTIS.

THE ELEVENTH ANNUAL EXHIBITION OF THE PHOTOGRAPHIC SALON.

THE Linked Ring has succeeded in making of the ugly little Dudley Gallery a sort of fairy palace, wherein their eleventh exhibition is displayed with the same taste and judgment as obtained last year, when, as now, Mr. F. H. Evans introduced the velarium, the hessian panelling, and other devices to decoy sweetness and light. Certainly both gallery and pictures are in need of all that can be gained in those qualities. It is, therefore, a matter for which we may be thankful that, upon entering the Salon, a very agreeable impression is made upon one's mind, and one starts upon a tour of the room with the keenest anticipations of good things in store.

A closer view of the pictures, however, leads one to think them not a whit above the average, and, worse still, a protracted visit confirms one in the belief that a large majority of these works will not wear. To live with some would be an utter impossibility to a sensitive soul.

The idea most readily deduced from a consideration of the show is that nearly all the photographers exhibiting are persons with a past. In years gone by they have made a success by some originality of treatment, or gained notoriety by some peculiarity of subject. This seems to be warrant enough for them to go on for ever trying to win their laurels over again instead of striking forward still, just wherever serious effort and disinterested aspirations would take them.

Six years ago this exhibition would have taken the world by storm. To-day the world finds it flat, stale, and unprofitable for the most part. Every other picture bears upon its face the stamp of a work done just so, because something else done just so has been well received aforetime. Even the young and rising contributors seem to be treading in the soiled footprints of men gone the road before them. Freshness, pioneering, and naivety are conspicuous by their absence. There is no youth. The Salon is outworn and *blasé*. Amateur photography of the artistic sort has stuck.

The result is hardly unexpected when it is considered how really limited are the alleys open to executive variety merely. When photographic artists shut their eyes wilfully to certain natural phenomena wherein only the possibilities are unlimited and are content to emulate one another solely in certain vagaries of treatment, it is not to be wondered at that they all find themselves locked in the same *cul de sac*.

Photography can only live by what it can tell the world of Nature. There is no call for it on the lines of the outward and visible sign of ordinary works of art without the inward and spiritual grace of works of art.

It has been our part in previous years to point the finger at these wrong turnings in the road to advancement, and we shall continue to do so, even whilst the misguided ones remain deaf and blind. Perhaps in the long run our exhortations will turn to lamentations, but they will be to the tune of "We told you so."

The first entry in the catalogue presents the name of

C. YARNALL ABBOTT.

He sends a portrait of "Alvin Langdon Coburn," which is specially interesting as being that of one of the most prolific exhibitors in this very Salon. The work is rather striking on account of the white shirt in which the young man is clad, the head by no means receiving the lion's share of importance in the scheme according to the usual way of things in portraiture. More interesting because more novel are Mr. Abbott's series of illustrations for a new edition of John Ruther Laig's "Madame Butterfly," published bv the Century Co. It must not be thought, however, that our opening remarks are in any way opposed to what we now say of the novelty of Mr. Abbott's efforts. Illustrations by photography are almost as old as photography itself. They have been applied to books and magazines in America years ago, and have not been found entirely successful. Two years ago, if we are not mistaken, Mr. Abbott exhibited an illustration to "Trelawney" which was immeasurably better in "go" and character than the three monotonous prints he shows now, and having done so well before we cannot exactly congratulate him upon falling below a former level. No. 18 is called "Good-bye, Liddle Maiden," and shows a girl (either real Japanese, or a capital imitation) closing a door, or screen. It tells but little tale, and is, therefore, no more of an illustration in the proper sense of the word than the thousands of drawings that do duty as such in the cheap magazines. It is very flat in tone, and vignetted to an unpleasantly wobbly edge. The next is much more lively on account of an irresistible little baby, who, at any rate, is full of "go." He is held by one Japanese lady, whilst another worships him. The title is "But he is a miracle—Yes" (133). It is not easy at the first glance to distinguish the form of the near woman's head. This picture and the third one (139), "They hid behind the Shoji," both suffer from the peculiarity of their backgrounds, which are made up of the rectangular framework of a Japanese partition, presumably the aforesaid Shoji. The lines are very hard; to our mind, unpleasant. In the latter work the baby again carries off the palm for interest. We are very pleased to be able to speak with more praise of the remaining work by Mr. Abbott (168). It is a head of a very disdainful looking beauty, and a work quite in the best manner of the photographer. He calls it "An Eastern Princess."

Sarah C. Sears

is not a well-known name at the Salon; but one that will be welcome again. In the first work, "Elizabeth" (2), we have a figure that has the "roundness" of life and the atmosphere of Nature, and in the background there is considerable quality. The flat but decided tones of (3) "Miss Alice Barney" do not please us quite so well. Here the dress of the figure is very dark, and scarcely detaches from the strong background. Nos. 7 and 8, "Mary" and "J. S. Sargent, R.A.," are alike in respect to the fact that the sitters appear to have been photographed in prison cells with dirty windows. Mary has whitish eyeballs, which, shining out from a distinctly Oriental complexion, remind one of those painted in the faces on mummy cases, albeit Mary appears to be a "coloured" lady. Mrs. Sears's nicest subject is the "Study" (11), which is that of a young lady in a veil. Still disastrously low in tone, there is nevertheless nice feeling and great promise in this work. The same applies exactly to (12) "Portrait of Mrs. Julia Ward Howe," which is remarkable for the pleasant background of the scenic sort that has been managed with much skill and taste.

The dark tones of the boats in the little print sent by

J. Kearney, Jun.,

are too generally equal. No other work is shown by this contributor.

Eustace Calland

is to be congratulated upon having done something fresh, and thus turning his craft into some new direction. There may be much promise in the decoration of textiles in the manner of his specimens here exhibited, but at present we do not think that he has quite managed to excuse his upheaval of good traditions. His two designs, which he calls "Suggestions for a Book-cover" "Autumn Flowers" (5 and 15), are repeated prints side by side of two negatives of floral forms. They are wrong in tradition because it has been found that realistic objects may not with success be repeated in a mechanical manner in a pattern. Repetitions may only be made of objects that are conventional. The mechanical repetition and the naturalistic presentment will not go together. He has made a further error in employing a different scale of reduction for each of his motives. Had he been able to conventionalise successfully two floral forms of equal scale his design might have passed muster. But apart from this the first one is very "jumpy" in pattern, and is neither strong nor delicate. No. 15 is much better because it looks stronger by the artifice of putting the white corncockle on a black square. Even this, however, scarcely raises the design above the ordinary draughtboard pattern. Some rather posy figures on a sunny lawn constitute Mr. Calland's third contribution, "Croquet" (100).

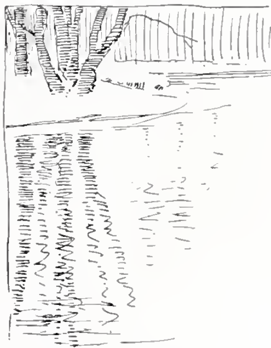
The "Arsala" (6) of

Mathilde Weil,

is a head and bust: a nicely managed piece of design and tone in that lady's best style. No. 119 is "A Little Girl" who sits full face in a chair, and who is clothed in the whitest of white frocks. Her "Two Little Friends" (173) are a little laughing girl and a black dog that rests his head upon the arm of the youngster. These are all very careful exercises in tone and lighting, and worthy of praise; but the "Leonore"—a good head—is much spoilt by the demonstrative granulation of the print. Great as is the reputation of

Rudolf Eickemeyer, Jun.,

his three works here ought to make it one degree greater. A landscape and a seascape stand out most markedly from the mass of things here by their absolute and convincing truth to Nature. They have, it is true, the not altogether lovely high horizons frequent in photographs, but the resulting long drawn out foreground is, in "Winter" (9), not in the least objectionable because the horizontality of the water is so well preserved. The view appears to be over some park lake, where the snow lies on the banks from which a bold clump of tree boles cast their reflections into the water. A charming distance closes in the scene. In "A Summer Sea" (13), we have a setting sun, a gleaming sea, breakers, and sands, all beautiful and all most convincing in their reality. Mr. Eickemeyer's third work is a "Portrait" (65), and one of the most delightful studies in the gallery. The lovely head, so beautifully posed and so charmingly treated, is in effect and style very like a Botticelli.



9 Winter R Eickemeyer Junr.

Dr. H. Bachmann

sends the largest picture in the exhibition. It is an imitation of those immense canvas-grained Roman views we have been used to expect from Dr. Henneberg, who sends nothing this year. Dr. Bachmann but feebly fills his place. His "Am Parkthor" (10) is impressive in a way, thanks to the noble cypresses. But the tonal values must needs be all wrong that show some stones in the gate posts of a brilliancy of tone far exceeding that of the sky above them, which is not supposed to be a stormy one. The print is of the treacly variety, and is commonplace in subject, the view at the park gates being intrinsically wanting in pictorial qualities and the effect of the picture failing to help it out.

Five figure subjects come from

G. Grimprel.

In the first, "A Medatto Girl" (14), the delicate tones and crispness of the negative have been commendably preserved through all the vicissitudes of treatment, background, vignetting, and so on. "Africaine" (44), which is just a little open to the charge of sootiness, represents a girl asleep leaning against a wall. Her hair, very much in evidence, and the towel-like garment that envelopes her shoulders, make the subject suggestive of the barber's shop. First-rate is the head and bust of an imperious-looking lady in red gum which M. Grimprel calls simply "Portrait" (97), the broken lights on her figured garment supplying a richness of effect that is quite captivating. The two remaining works of this author hang side by side. No. 230 is called "Melancholy," and No. 231 "The Black Gown." As a matter of fact, both the ladies who constitute these allegories are in black gowns, and if the one is fitted to impersonate "Melancholy," the other might with even more reason stand for "Resentment," since she wears a distinctly sulky air as she sits with folded arms. Both prints are clever, as might be expected from the distinguished authorship they claim.

Frederick H. Evans

follows next with a photograph of a girl's head, the eyes of which are certainly of that full and steadily-gazing kind that is associated with milch kine. The young lady cannot be said to ogle, but she is looking with purport. The quatrain, therefore, which Mr. Evans has attached as title is very happily chosen:

> "Lesbia hath a beaming eye,
>   But no one knows for whom it beameth;
> Right and left its arrows fly,
>   But what they aim at no one dreameth."

She wears a sort of muslin shawl or hood, the frill of which falls around her face. This has afforded the photographer that contrast between itself and the black background which he is so fond of securing, and which certainly is a short cut to good tone in the other parts. Mr. Evans has done as well before; but this year he has not surpassed this in his figure work here. A full measure of gratitude is due to him, however, for something in the shape of a new departure. He has sent three costume subjects, one of which, No. 32, is a portrait of "Granville Barker as Mr. Wenham ('Becky Sharp')." The realisation of the part, therefore, is not the photographer's matter so much as the actor's; but the posing is quiet and forceful—a fact which places this effort upon a higher level, we think, than the other two costume pieces, which make a greater striving after dramatic effect. No. 26 is "Macaire"—"The Creak of a Man's Footstep! Hist!" wherein the double-dyed villain is of the melodramatic Italian variety, and not at all a fearsome man because he happens to have the racial characteristics of a broad jawbone and large round eyes. He looks much more like one of those extremely mild, harmless, and smiling organ-grinders who beam and touch their hats, seeming to be overjoyed when ordered into the next street. As "Villainy" (77) he has been used to give point to Shakespeare's lines,

> "Let not light see my black and deep desires:
> Yet let that be which the eye fears,
> When it is done, to see."

77. Villainy F H Evans

Here, although he feels the edge of an immense knife, he does not look terrible. The two works have more humour in them than anything else, and, knowing Mr. Evans's exquisite sense of humour, we take it that he has sent these pieces as humorous examples of penny gaff histrionics, in which guise we hail them with delight. In point of executive skill it is needless to say that they leave nothing to be desired. Before leaving the figure work we will revert to No. 141, "Portrait Study" of a gentleman whom Mr. Evans has shown us before if we mistake not, although in a different pose. The sitter is a man growing past middle age, of the florid type, whose countenance must be a godsend to a photographer with a hankering after modelling full and strong. The "physical features," using the term in its geographical sense, of this excellent model afford the utmost play to light and shade and its nuances, and in the work before us they have been made the most of. There is a deal of energy and character in the portrait, as we expect from the photographer.

We come now to four architectural works by Mr. Evans, No. 50, "The Strength and Dignity of the Norman (Ely Cathedral)," is hung rather high; but by what can be seen of it there seems to be more emphasising of the strength than of the dignity of the architecture. The print is much broader than it is high, and the massive columns, therefore, are not given in their full height, which, to our mind, is necessary for the impression of dignity. No. 51 is perhaps a finer thing. This, we learn from its title, was taken in "Late Afternoon in Ely Octagon," though at what season of the year is not stated. It has the familiar dark near arch with the light seen beyond: a charming effect that we suppose the photographer must be forgiven for coming back to so often. "An Open Door" (129) is an exercise in reflected light, another old love to which Mr. Evans is constant. Through a doorway a strong light floods in upon the threshold, the bright spot of which casts upward a gentle light that throws into exquisite relief the carvings upon an archway. Within, another light, direct, but of no more strength than the reflected beams, is seen to fall upon the nearer side of the arch, and the two result in a most fascinating study of conflicting lights. "A Patch of Sunlight (York Minster)" takes its name from one of those stray shafts of light that seem to come from nowhere and settle anywhere in a large building. Here it has alighted upon a near cluster of columns, and is rendered with much beauty and truth. In one respect we think that this view (151) suffers a little from the over-sharpness and strength of the large window seen between the columns. Difference in the local colour of the near and far-off parts may account for the dark detail in the distance beneath the mullions; but is it not possible to overdo the absence of halation in a large window? The human eye, which is the critic's final authority, sees and welcomes some softening of the edges that obstruct a light.

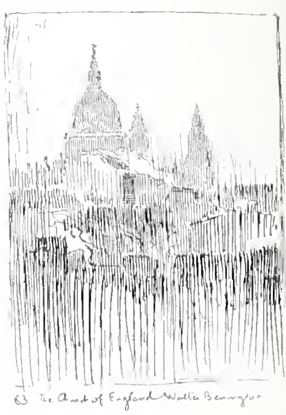
HAWEIS AND COLES

is apparently the name of a firm whose address is in Paris. They send "Un Artiste Peintre" (17), which shows the head and shoulders of a youth strongly lit; "The Silk Sphinx" (87), a partly-clothed female creature in a grovelling attitude, even more strongly lit; and "The Poet" (165), a youth sitting close against a bare wall with a writing pad in his hand, who can scarcely be said to be lit at all. He is one of those incarcerated people who figure so often in the Salon. He may be set off against the painter and the sphinx who are cut up by sharp lights and strong shadows, so that the prints they adorn have no massing beyond a mass of spots.

On the whole, we do not think that

WALTER BENINGTON

quite fulfils the promise of former years, though his "Portrait" (19) of a young girl in an easy and charming pose is first-rate, having excellent lighting and a good sense of the "large line." He has placed her in that wilderness of bare wall and floor suggestive of the cell or the workhouse ward, which seems to be more than ever rampant this year. Could not so young and talented a worker find a more distinctly personal method of arrangement? Similarly his "Evening in a Buckwheat Field" follows the stupid method of dinginess now in favour, and leaves us disappointed when we think of the beautiful little fresh and straightforward things he has done. "The Church of England" (83) is by far his most ambitious and most successful work. It represents St. Paul's Cathedral rising into clear air out of the sea of roofs and fog, which, rather gratuitously we must say, has been made to seethe darkly around its base in the manner already made familiar by more than one artist of both the palette and the camera. Still, on its own merits, it is a cleverly handled print, and has pictorial qualities of a high degree. The fane piles up nobly, showing that some pains had been taken to secure a point of view from which so fine a selection could be made. Fewer of the necessary points that go towards the making of a good picture are observable in "The Oyster Women of Cancale" (159), which is no more interesting than the good and happy snap shot would be from which it has been enlarged. Mere increase of scale is not of itself enough to warrant enlargement of a work of such unmanageable composition. In "Browsing" (197) we have one of Mr. Benington's attempts at gum-bichromate printing, and it is a pity that it should have been given so good a place here, not because it is exactly bad, but because its author may be led to infer that he has mastered the manipulation of the process, which he manifestly has not. There has been a deal too much sheep-washing of the gum-print sort in the foreground; enough almost to wash them off the face of the earth on which they stood. "The Field Path" (221) is much better, but there is still a wide margin between it and a successful landscape.



83 The Church of England Walter Benington

Two out of the three figure subjects by

ISABEL C. TAYLOR

are enigmatical. Why does "Tulips" (20) bear such a name, because a little girl, with a nice pose and pretty face, sits in a chair? And why, in a photographic monochrome of a neutral cast, is the robe worn by a lady standing in a back yard and contemplating an oak fence, called "The Purple Djibbah" (67), when it is neither actually the eastern robe that bears that variously spelt name, nor of the colour it claims to be? Of "Miss Marjorie Pinder" (201) we have two faults to find. The pose is too stiff, and the high light on the shoulder is unpleasantly high in tone for the rest. Miss Taylor has shown the most artistic feeling in the case of "Tulips."

"The Crystal" (21) is a red print on Michalet, or some other strongly grained paper, due to the choice of

WM. A. STEWART.

The lamentable result of the wire marks in the paper wherein the pigment has collected is that the doleful figure of the crystal-gazer appears to be standing in a meat safe. In the manipulation of the print the drawing and the tone have been banefully lost. "Life's Frailty" (205) is a more ambitious effort, and as it looks like a sincere trial to do something fine with the male figure it is worthy of praise. The composition is not quite happy, however, since the figures of the man and of the swooning boy whom he holds up take parallel semi-circular lines, which look more curious than beautiful, whilst the darkness of the print makes the figures more gruesome than impressive.

REGINALD CRAIGIE,

the honorary secretary, has done well to exhibit his masterly group of "The Court of Directors of the Bank of England, 1903" (22). It redounds to the credit of the Salon, inasmuch as it is a living proof that the portrayal of the commonplace by straightforward methods is not debarred from its walls, provided that it is well enough done. At the same time it forms the strongest artistic protest against the faked rubbish which contributors think it necessary to send there under the delusion that a photograph cannot be artistic in the Salon sense of the word unless it follows those mannerisms of selection and treatment which have become so wearisome at the Dudley Gallery. Mr. Craigie's group is as refreshing as a draught of spring water to one who has been offered nothing but spiced treacle wherewith to quench a devouring thirst. It is without soot or gloom, although it has a convincing indoor light. The whole effect, in spite of the commonplaceness of the subject, is really artistic, owing chiefly to the picturesque availability of the renaissance architecture that had been so cleverly seen. Such a result from a group of twenty-five men in modern coats and trousers must be a happy issue out of many afflictions endured by Mr. Craigie. His only other contribution is a very distinguished portrait of a very distinguished personage, "Hermann Vezin" (42). It is no worse nor no better than many similar portraits the secretary has sent in other years.

MRS. WM. E. RUSSELL

sends "Lac Leman Boats" (23), wherein the granulation of the sky is obtrusive, and spoils its quality. Moreover, granting so bright an effect as she represents, the buildings and boats are too generally dark in tone, and should show much more detail. The little girl in the corner of No. 95, who is so full of remorse, and not a little piqued, illustrates capitally the well-chosen title "Misunderstood." This nice bright print is a good piece of honest photography, and of much tenderness in its tones.

The best of the three figure works by

EDMUND STIRLING

is without doubt that called "The Glove" (24), which represents a lady in a light silk dress standing in a room papered with a pattern that is valuable to the picture, and drawing on a white kid glove. We should have preferred to see the modelling of the shoulder-girdle somewhat less forcibly brought out. The high light on the lower lip is also a little unfortunate. No. 229 is "Portrait D.N.," which, with a boy in a sailor suit as *motif*, follows all the worst traditions of the American school, to wit, the head jammed up into a corner, trimming to a square shape, Stygian darkness, and so on. No. 249, "Portrait A.B.," may be an able-bodied seaman or anything else (not) under the sun, since it is absolutely too dark to discover anything but the glimmer of what looks like the face of a ghost in the night.

The name of

MDLLE. C. LEGUARDE

appears also as Laguarde in the catalogue, and we are at a loss to describe her correctly. Her red print of "Le Pierrot" (25) is a highly successful realisation of that unique and indispensable creation of the French mind. "Mdlle. A.B." (40) is likewise a clever piece of work stultified by a rather strained attitude. Her face is almost obscured by the thick curtains of straight hair, which have come to be the distinguishing sign of "New Art" wher ver one finds it. The freshest and best work by this lady is "Le Savant" (218), which possesses much grim humour and a circumstantial working out that is very engaging and praiseworthy. An old student, in figured robes, reaches across the regulation ponderous tome in order to measure, with immense callipers, a skull which stands on the table before him and grins derisively at his particular energies and the vanities of scientific research generally. The air of the man is convincing, and his action capitally managed. Moreover, the lighting in this clever thing is reasonably bright and effective. "La jeune fille à l'œillet" (238) is a nice study in velvety tones, but the flower might have been made a more ready translation of the word in the title for the benefit of those who "disremember."

A girl kneeling before an obscure little crucifix on the wall is the subject of the evangelistic title of "He satisfieth the longing soul" (27), by

JEANNE E. BENNETT,

whose pair of pictures numbered 52 and 53 please us more. The first is "Knitting Girl," a print of a beautiful tone and colour, showing the humble interior of what is presumably a French peasant's cottage, where a girl sits quietly at work. The gentle play of light over every object is charmingly caught. It is a finer work than its companion, "Primroses," wherein another girl knits also. Here, however, the composition is more crowded by flower pots upon the table before a low window. The primroses appear to be growing in a flower pot curiously enough, but these and other flowers are indistinguishable from one silhouetted mass of foliage. A nice innocent looking little girl, whose face is in a beautiful gradation of light, is named "Helen" (180). "Madeleine (213) if, as appears, offered as an impersonation of the Magdalen, is scarcely remorseful enough for the character as she is traditionally represented in art, although her thrown-back head and turned up eyes are something towards it.

R. C. DAVISON

sends a tiny little print of a "Bowl of Flowers" (28), which though rather a bottle than a bowl, is an artistic morsel of charming quality. "Coalheavers" (215) is, as a silhouette, quaint and curious, but is nothing more. A badly washed off sky, which has the effect of clothing a chimney shaft in a wrapper of chiffon, is a drawback to the otherwise effective little gum print called "A Norfolk Wherry" (226).

FURLEY LEWIS

gives the Salonites a peep into his *sérail-atelier*, where in the luxurious darkness we distinguish a houri entering at the doorway from a lighter room beyond—veritably "in the dusk with the light behind her." Her face we cannot see. The whole of "Au Coin de mon Atelier" (29) is a beautifully rendered interior, if we except the unnatural gloom of the place. A painter would have telegraphed to his model "Don't come; too dark to-day," but photographers love the darkness rather than light.

A better notion of "God Almighty's daylight" is given in "A Hard Bargain" (30), wherein

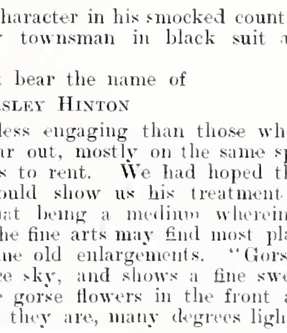
HAROLD HOLCROFT

shows fine appreciation of character in his smocked countryman talking to a country townsman in black suit and bowler hat.

The four landscapes that bear the name of

A. HORSLEY HINTON

are no whit different or less engaging than those which have hung here year in year out, mostly on the same spot of wall, which he appears to rent. We had hoped that some day Mr. Hinton would show us his treatment of gum-bichromate prints, that being a medium wherein a worker with affinities for the fine arts may find most play. However, here are the same old enlargements. "Gorse" (31) has a particularly nice sky, and shows a fine sweep of common, but surely the gorse flowers in the front are too high in tone, being, as they are, many degrees lighter than the bright sky! "Rain from the Hills" (182) is particularly pleasing, because it has a deal of dramatic force. Its rocks, its storm, and its complete delugey look make up a most majestic work. A gentler effect provides a good contrast in "Fleeting and Far" (183), a title that it is to be presumed applies to the excellent cumulus clouds, which, though too large in scale for the scene, have the great merits of being buoyant and moving, and possess-

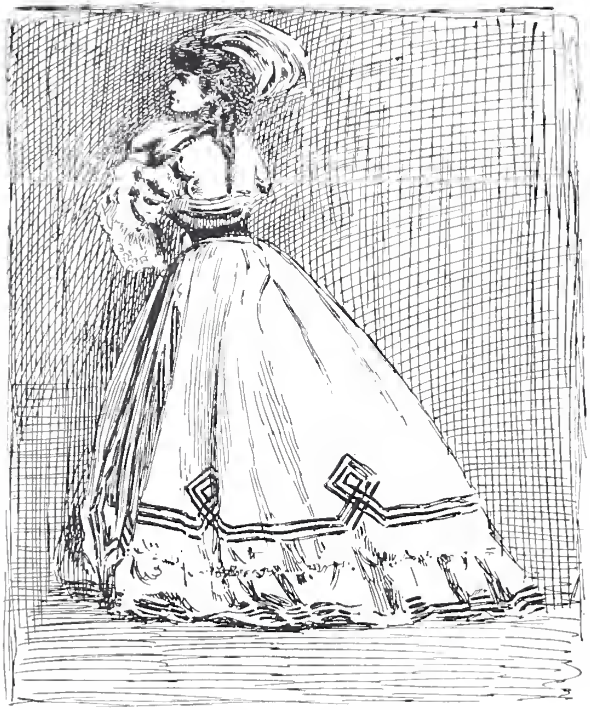


183 Fleeting & Far. A Horsley Hinton

ing roundness. "Beyond" (186) is a very "utter" title that would appear to call special attention to Mr. Hinton's disregard of definition in the grass beyond the foremost tree.

DAVID BLOUNT

sends a charming study of costumed figure called "Crinoline" (33), wherein he has succeeded in imbuing the hoop of the sixties with a grace that theoretically it should not deserve. His "Dusk" (108) is a landscape having quality and effect. So much is determined with ease, but more it is impossible to say of it, since it is so generally dark as to defy the average eyesight. No. 118 is one of Mr. Blount's figure enlargements with which he usually succeeds in making something fine. It is called "The Butterfly," because the lady, who is large in style, if not actually in physique, holds a butterfly on the back of her bended hand. It appears that the wrist and hand have lost something in this print. Mr. Blount's usually "stringy" texture is still evident over all, but the head is beautiful. If overtaken by such an eerie and frightful effect of storm upon such "A Moorland" as his No. 132 shows, we do not believe that Mr. Blount would have the courage to stop and photograph it. For ourselves, we should forsake everything and run home for shelter. Another figure subject exhibits considerable skill by the manner in which a muslin drapery has been employed to break the lines and add softness of texture to the standing figure of a lady. This is No. 252, "Portrait of a Lady."


33 THE CRINOLINE DAVID BLOUNT.

"A Mother's Tender Joy" (34) is unhappily the only work here by

W. P. STOKES.

We should have been glad to see more from a gentleman who can work so simply and so prettily. His picture is quite in the best vein of M. Puyo, and depicts with the silvery transparency of a tender scheme of lighting a lady leaning upon her elbow upon a bed whereon also lies a baby on his back, with whom she is playing.

W. B. DYER'S

"Miss W." (35) is an outline of a young lady whose head and hat are filled in solid. It is difficult to see where the great merit of this lies that it should hang here, whence so many are debarred. "From the Clay" (41) is an example of Mr. Dyer's puzzling titles—a much stained print of the head and shoulders of a girl with starting eyes, who stands before a piece of ill-proportioned sculpture. What is it that is from the clay? The sculpture appears to be marble, and is no more from the clay than is any other sculpture for which a sketch is made. After all, Mr. Dyer's little boy in a wide brimmed hat, dark and dismal, and void of form, as the whole thing is, has the nicest quality of his three works.

C. PUYO.

Three more of those flower maidens whom M. Puyo never seems tired of photographing may be seen wandering through a perfect paradise of flowery woodland, whereby runs a stream. The title of the work is "Eté" (36). It has not much in the way of effect. "La Statuette" (37) depicts a lady in ordinary walking dress, who has seated herself negligently in a chair in order to toy with the statuette on the table. At the bottom corner of the picture her dress is allowed to catch a brightness of tone that is a little disturbing. False to his good usages, M. Puyo sends a "Decembre" (59), which is inexplicably dark, but otherwise of nice quality. In it occurs a curious figure or stump, or scarecrow—we risk no decision on the point. A fine pose dignifies the figure of "Etude" (64), which, indeed, is a study in two or more colours. It is a pity that the whites of the lady's eyes have been permitted to remain so assertive. A head and bust, delightfully modelled, of which the face is shaded by a large hat, constitutes the "Portrait de Femme," which is No. 69. "Liseuse" (71) is not unlike a print M. Puyo exhibited last year. It shows a lady reclining on a small couch in an attitude that involves considerable tortion. There is no background. We like the strength and novelty of the landscape "Méandres" (102), wherein peasant women wash clothes in the torrent that rushes through a rocky gorge. A very sweet example of the genre work of M. Puyo is seen in No. 163, an interior, where a lady plays a guitar from music set up near a window, owing, as the title explains, to "Le Jour Baisse." In this picture, which is quite naturally and artistically dark, a second window introduces a conflicting mass of light tone, which is very risky in theory, but does not seem to do any real damage to the scheme of the work.

We now come to the work of another French expert,

ROBERT DEMACHY,

whose "Essai de Simplification" has already been introduced and described to our readers in our Christmas Number of 1901, which it graced as a frontispiece. A pleasant contrast of texture and colour is shown in "Peg" (46), where the delicacy and softness of a girl's face are set off against the lively sparkle and strength of tone in a terrier's head which rests upon her shoulder. But by far the most interesting of M. Demachy's prints is the novelty in the shape of a snap shot of a motor car, which rushes towards us with ugly realism amidst a cloud of dust. This print, called "Speed" (55), has made a little sensation. The only thing not explicable to us is the lightness of the road and the darkness of the sky. A toothless old woman sitting on the edge of a boat appears as "A Boulogne Fishwife" (61). The composition here is more curious than lovely. We have also "An Impression" (62) of a lady in a black hat, and another of "Autumn" (98), where the moon—surely it must be the moon—low in the sky, throws a fine effect over meadows by a stream into which seven slim and equidistant poplars throw their reflections. Do all groups of trees number seven? A third impression is that of a bridge, and some gay looking buildings obscured by the smoke from a tug which rises up in the form of a tree. This is "An Impression of the Exhibition of 1900." The two portraits that remain are quite in the usual manner. One is "Mdlle. H." (192) and the other (No. 228) a head of powerful character, which, however, is almost lost in the stripy background that M. Demachy has adopted of late.

228 Portrait of M Sainte Claire Deville

Of the two works sent by

J. CRUWYS-RICHARDS,

the large head in several printings is the finer work; but, taken with its mount and frame, the slighter "Poppy" (39) is a charming piece of decoration. The robe is beautifully simple and statuesque, and in the head a decent measure of materialistic realism is preserved. No. 45, "Briar Rose," is a girl's head in strong tone, but with well-considered taste in the lighting, of excellent quality, and of a happy mean in the matter of definition

A worker who has made immense progress latterly, and who this year has some excellent work, is

ALEX. KEIGHLEY.

His first work is called "Adieu" (43), and is a picture of a quay where a fisherman reaches up to take a farewell of his little child as it stands above, held by the mother, who stoops over it. There is something quite classic in the groups of men in the boats. The crowding sails, the quay, and the many figures upon it, altogether make a first-rate picture. A tendency to gloominess on the left-hand side is somewhat against "Ploughing in Tuscany" (120), another first-rate subject. A better effect of light and air—and perhaps the very best of such effects in this gallery—is seen in "Peace" (135), a pastoral subject of most pictorial selection, with unusual breadth and largeness of style. But "The White Wall" (150) is very little if any less happy in selection. This is a road scene with trees on one side and picturesque buildings on the other, flooded in sunlight. A woman's figure is judiciously introduced. Similarly good, but rather too much like the last in arrangement, "Through the Olive Grove" (156) would be improved by a stronger effect of sunlight. The woman in this is accompanied by a donkey, and they both are of inestimable value to the scene. The sheep in "The Moving Flock" (162) appear to be truly in motion. Their wool catches the glinting sunlight in a perfectly convincing way, so well appreciated has been the artistic value of the light effect.

A river scene and a street scene come from

WALTER SCUTT.

For the former we cannot confess to much admiration, as it has been made to look like an amateurish stipple painting on porcelain. It is called "A Bend of the Exe" (47). "La Rue aux Févres Lisieux" (223) appears to be better. It is certainly a pleasant selection of a street of old houses.

There is considerable effect and a near approach to the real beauties of landscape in "A Foot-track after Rain" (48) by

CHARLES JOB,

where the wetness of the ground has a natural appearance. His shore scene of "Carting Beach" (70) is likewise notable for good tone values. On the whole we prefer No. 114. "On the Arun," because it is so breezy and open, with its effective sky and its windmill.

JOHN H. ANDERSON

will not increase his reputation this year. He has shown us in No. 49 what "A Dutch Canal" looks like in a bad London fog. The rather murky "Harbour at Low Water" (57) has been hung too high for us to see much of it, whilst his remaining piece, "Piccadilly" (188), though of particularly nice quality, does not give a characteristic idea of that noted thoroughfare.

188 Piccadilly J. H. Anderson

We are brought now to

WARD MUIR'S

reminiscence of the medalled "Seven Pines" of last year: "The Shadow on the Snow" (54). In many respects it is better than that other celebrated work. Certainly the shadow is a little curious and interesting; but there is not much in the subject. His road scene, called "Sunshine after Rain" (60), is a gum print that is guilty of much exaggeration of contrast between light and dark. A deal nicer is the delicately-accomplished Eickemeyer subject, "In the Snow" (115), but he drops away again into falsity of tone when he deals with the bright fountain amongst the blackness of trees in contrasts too strong for either sunshine or moonshine, and we confess to not knowing which effect is intended in No. 225, "In a Southern Courtyard."

MRS. M. L. SPICER

shows us a little girl with a curious attachment which we make out with difficulty to be a fur or feather boa. The child holds above her what she describes as "My First Umbrella" (56).

BARON A. DE MEYER

exhibits some first-rate portraits, two of which are of "His Majesty the King" (58 and 191). The former of these is first rate, but the other suffers a little from hardness and edginess. A very handsome young lady appears to great advantage in the "Lady Marjorie Manners" (155); and "The Baroness de Meyer" (161) is a half figure of delightful action and very tastefully lit.

There is but little of "The Veil" distinguishable in No. 63 by

S. L. WILLARD

—a work of great merit. "Spring Song" (194) is better still, however. In a pretty woodland scene two charming figures of the idealistic type are doing their best to carry out the meaning of the title. The near one seated on the ground is adorned with a delightful scheme of lighting. This is distinctly a picture worth possessing.

194 Spring Song S L Willard

MRS. G. A. BARTON

has, we regret to say, not done much better with her little models than we have seen her do before. "St. Dorothea" (66) is a new name to a familiar theme; and "Purity" (122) is open to the charge of sentimentality. The face of the child is by an unlucky chance almost of exactly the same tone as the background that surrounds it. Much healthier and stronger work is seen in "A Fisher Girl" (123), which is more spontaneous than usual. But finest of all is "The Awakening" (146), and this is quite noteworthy. A matron of a Veronese type holds upon her lap a naked baby who looks round with the eager gaze of a child just awake. The picture is eminently pictorial, excellently composed, and one that is full of interest and artistic feeling. "The Breton Boy" (148) by the same lady has a simpering face, but it is nicely illumined.

66 St Dorothea Mrs G A Barton

A light wall behind the lady who fingers upon the piano the melody of "A New Song" has resulted in a very effective scheme of lighting by

E. T. HOLDING,

whose other work here is not so important. It is called "In Arcady," and is a not very Arcadian little boy trying to get a tune out of a stick.

The botanical studies of

MRS. CARINE CADBY

are as usual carefully done; but they do not seem to display any merits beyond those of mere execution. They are "Asparagus Fern" (72), "Daffodils" (109), "Jonquils" (112), and "Grasses" (210).

WM. CADBY

prefers a human interest. His "Small Boy" (73) stands clothed in a smock with his hands behind him in an instinctive deference born of the day school. His expression is truly boyish, displaying wonderment at Mr. Cadby's operations. The girl's head in "Portrait" (75), with its eyes fixed in abstraction, is if anything too Bergheimily broad in treatment. In the softness and the subject of the print, "Mary" (88) is remarkably like a Greuze, without his sentimentality. "Winter" (92), another allegory, displays a young woman dressed up as an old one, and gathering sticks. It shows remarkably good design and composition, which are more than can be said for "Under the Pines" (93), which has neither.

DR. GRINDROD

is only represented by his rather monotonous print "The Toilet" (76), which does not do justice to his powers. Where are his fine landscapes and wood scenes this year?

MISS KATE SMITH'S

name is unfamiliar to us, but her work is so good that we hope we may meet it again and again. She sends a smiling litle girl with a pigeon, which she calls "The Captive" (78). It is most prettily arranged in a circular shape. It has good lighting and fine quality.

Two excellent landscapes contributed by

HECTOR E. MURCHISON

show considerable poetic feeling. Some wild ponies braving the wind of a stormy day give the title of "Vedettes of the Moor" (79) to a piece that displays fine lighting and a fine sky. Another moorland scene entitled "The tearful glimmer of the languid dawn" (85) is no less poetic.

CHAS. MOSS.

This gentleman is much to be pitied. He has been thoroughly illadvised. He has five works here, all displaying excellent selection of subject, and yet not one of them rises to any level of naturalness or charm, on account of the hopelessly dark and gloomy tones in which they are printed. "In Surrey Woods" (80) and "Bracken and Gorse" (86) are two of these irrevocable failures. No. 96, "In the West Highlands," might perhaps pass muster if it were accepted as a summer midnight scene. There is undoubtedly a fine effect of the gradation of faded light in the sky. But in "Off Greenwich" (138) the water resembles cotton-wool, and in "The Harbour (214) a first rate subject has been ruined by a feeble and woolly treatment.

The sea and wave studies of

F. J. MORTIMER

are usually interesting, and we turn with hopeful expectancy to his "Storm at Sea" (81). It is, however, so uncommonly stormy and dark that not much can be made of it. "In Fine Frenzy" (181) quite satisfies our anticipations however, with its breakers that dash themselves into fine spray upon the rocks, whilst "In the Height of the Storm" (185) is almost better still, because it has more effect of positive daylight.

An interesting woodland scene by

A. A. BELLINGHAM

entitled "Sturdy Props ' (82) is hung unmercifully high, but it looks to be a good work.

One of the finest landscapes that have been shown here recently from the hand of

GEORGE DAVISON

is a view of "Meadows at Molesey" (84). It is fine, because it gives with wonderful truth of effect the saturated and gleaming meadowland and trees that have just received a torrent of rain. We only wish that the sky could have been more exactly washed away from between the tree boughs. It is one of the most striking gum prints we have ever seen. Two other landscapes that are arranged as pendants one to the other are not nearly so convincing. These are long-shaped horizontal pictures, the first "A Golden Evening, Lucerne" (131), and "Scarborough from the Castle Hill" (137). Both of them suffer from a smoky, spotty effect in the skies. "North Sea Trawlers" (134) is, again, a work with a highly pleasing effect of light and mist over the water. We are also charmed with the subject of "A Lowland Waterway" (200), and wish it had not the appearance of being seen through a widow's veil, in consequence of the flatness and general dulness of the print.

Of the work by

J. CRAIG ANNAN,

that numbered 89 will probably attract most attention because of the way in which it reproduces the quality of an old engraving. This resemblance has been heightened by the device of lettering the title, "Pittendrigh MacGillivray, Esq., R.S.A.," exactly in the manner of an old print. "Frau Muthasius" (219), a young lady's portrait, has not nearly the interest of the other.

There are no less than nine works by the youthful worker,

ALVIN LANGDON COBURN,

whose portrait by Mr. Yarnall Abbott has already been noticed, and who certainly seems to possess talent. We would warn him, nevertheless, against following too closely the methods of F. Holland Day, Mrs. Kasebier, and others. It is so much better for a young man to find and preserve a style of his own. His first work here is a "Portrait of Gertrude Kasebier" (90), whose strong, almost masculine, face displays the temperament of determination and mastery. The face, if not the other portions, is well lit, and the pose is full of spontaneity and freedom. Of the "Bell Tower, Santa Barbara Mission, California" (99), we cannot say much, except that it possesses interesting suggestions of colour. In selection it seems to be absolutely wanting, and the immense triangular shadow that covers half the work is in poor taste, and points to a great opportunity wasted. A little transparency in these parts would have revealed no end of beauties in subtle lighting by reflection. The same building is shown to even less advantage in No. 105, which teems with ugly uncomposed lines. The best of this gentleman's work is without doubt "Portrait of my Grandmother" (128). Here he has been at some pains to secure transparency of shade, with the result that he has produced a perfect little Rembrandt. A "Portrait of Alfred Steiglitz" (130) and one of "Joseph P. Keiley" (140) are both very strong works in characterisation, but we are sorry Mr. Keiley's head is right in the corner, in emulation of the style of Transatlantic portraiture. "Portrait of a Potter" (141) is, of course, fashionably dark, more's the pity. Mr. Coburn's "Portrait of C. Yarnall Abbott" (168) shows the photographer with palette and brushes, and his sleeves tucked up for work. The lighting is much better, and more effective than it is in the others. It is curious that a man who turns out to be a painter should do illustrating work with a camera. As a likeness, we are afraid that "Portrait of Sidney Allen" (170)—a perfect silhouette—is nothing more than simply a stupid *tour de force.*

90 · Portrait of Gertrude Kasebier.

170 Portrait of Sidney Allen

MISS BESSIE STANFORD AND J. M. C. GROVE.

There is a more healthy effort in Miss Stanford's head and hand of a girl, who contemplates a bangle upon her wrist under the name of "A Fetter" (91). This little work has a clever effect of light in the background that gives the work a deal of importance.

Mr. Grove exhibits two ponds, which are both dark and mysterious in more ways than one. Their names are "The Forest Pool" (94) and "The Millpond" (160).

H. WILMER AND J. MITCHELL ELLIOT.

Mr. Wilmer's roadway, which is nice and light, and otherwise in good taste, does not seem particularly to justify its title of being "On the Summit" (101), but we have no doubt that his topography is quite unimpeachable.

Why Mr. Elliot should describe his work as a sketch, and still more as a "Pencil Sketch Portrait" (103), we are quite at a loss to know, unless he considers that behind the word sketch he may hedge the bad arrangement in his work. In that case it would have been more polite to send a more mature performance. There is much that is nice in the otherwise monotonous view he calls "In Winter's Grasp" (212).

ALBERT STEINER AND MISS AGNES WARBURG.

106 The Reaper Albert Steiner

Mr. Steiner has made a laudable attempt in his outdoor figure subject called "The Reaper" (106), but he has gained nothing by falsifying the original tone values of his negative, which we can see by the sharp shadows were those of strong sunlight. The hill up which his man toils has no difference between the near and the far parts, and may well be a perpendicular plane.

Miss Warburg's work is usually interesting, and her "Whispering Spring" (107) is commendably tender and delicate. She has not entirely succeeded with "Three fishers went sailing out into the west" (158), wherein the twinkling sun-sparkles on the water are, by diffusion, like nothing so much as white fungus marks on the paper.

MRS. EVA WATSON-SCHUTZE AND PERCY G. R. WRIGHT.

We do not fatham the esoteric meaning of Mrs. Watson-Schütze's upright figure called "The Rose" (110), who holds in her hand a long branch of the plant—stem, leaves, blossom and all. According to modern poster and "new art" canons the figure by its straight up, full face aspect is decorative in intent. We only remark that she looks a little grubby. The other picture by this worker is more welcome because it has a capital effect of lighting. It is called "The Student" (222), and represents a young lady engaged in what appears to be either modelling, poker work, or some similar technical-school pastime.

The reflections of the legs of three girls and two children on the wet sand are the nicest part of Mr. Wright's ". . . . these yellow sands" (111), which, however, has much else to commend it.

S. STOCKTON HORNER AND THOS. FREDK. BROGDEN.

Another of those hair-shrouded females that seem to lurk in all the dark corners of America and France has been unearthed by Mr. Horner, and named "October" (113), perhaps on the same principle that Crusoe named his darky Friday.

Mr. Brogden's "Old Dutch Carpenter," who seems to be repairing the bottom of a ship with a piece of rush matting, has more interest for us. He, at any rate, is innocent of cheap sentiment and allegory, and he is in the open-air and the full light, which says much for him.

CHAS. EMANUEL

has not shown anything very great this year. His "Foreshore" (117) is very nice in its way, and the delicacy of his "House on the Wall" (190) is remarkable, if it has not been carried almost too far. The subject with its river and boats is a very romantic one, and seems to be full of possibilities. We like it much better than the view of the Scheldt, called "Antwerp" (224), which is saying a good deal.

190. The House on the Wall : Ch. Emanuel

121

HAROLD BAKER

sends three portraits, the best of which is the fine and characteristic head of "R. Catterson Smith, Esq." (121). It displays good treatment in the modelling. His "Edward R. Taylor, Esq.," has character likewise, but is otherwise ordinary in merit. In "Portrait" (246) Mr. Baker tries his hand in the American manner by placing his sitter close against a wall to which she adheres for no obvious reason but to be photographed.

MISS CONSTANCE ELLIS,

who has two subjects similar in style, shows how much can be done by careful and masterly posing. In "A Serious Matter" (123) a little French peasant girl, kneeling upon a chair, leans over a meal table to discuss "A Serious Matter" with a grey-haired peasant, who rejoices in what is known as a "fine head." The scene is a cottage interior, wherein the fireplace is put to good account in backing up with its dark mass the light figure of the girl. The only drawback to this is that hard edges are not entirely avoided. This very engaging picture is No. 123. A third figure—the mother (?)—is pressed into the second group—"Extenuating Circumstances" (147)—which, though it has even better lighting and delightful lines in the posing of the child, is not quite so taking as the former work.

MARY DEVENS.

We had occasion last year to remark upon the falsity of the tones in the work of Miss Devens. It cannot honestly be said that her seven works this year are any less open to a similar criticism. Nos. 125, 126, and 127, respectively "At Varenna," "Mendicant, Capri," and "Little Canal, Venice," are each of them so sombre as to forfeit all interest. "The Torpedo Boat" (143) is not quite so forlorn, but is inexplicable in subject. There is certainly something—not much—of power and design in the big rolled up nets over the shoulders of "The Shrimp Fishers" (144); but "Olive Trees, Sicily," is the best work of the group, whilst "On the Guidecca" (193) is far and away sootier than anything in London, Leeds, or the Black Country.

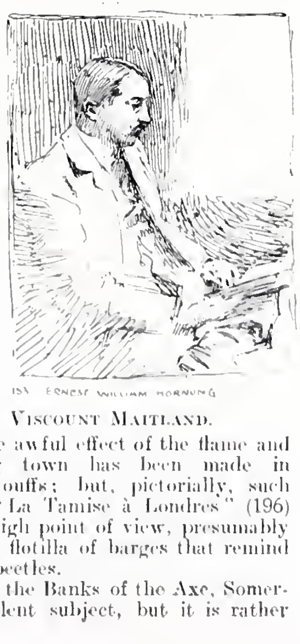
LIONEL CHARLES BENNETT AND F. C. BAKER.

"On the Canal—Early Morning" (136) is possibly very nice; but the hangers have granted Mr. Bennett so exalted a position that criticism would be guesswork. Mr. Baker's "On the River" (149) is unfortunately somewhat clumsy in design and fuzzy in treatment.

GEORGES ECALB AND FRED HOLLYER.

Two prints of particularly nice quality and feeling are sent by M. Ecalb. The one is "Dreams" (152)—a lady pretending to sleep, and this has a rather aggressive background of the usual sort in gum bichromate. The other is a "Decorative Study" (245), designed in the manner of Leighton, but too slimy in the run of its lines, which are very obviously composed. A deal of badly-matched handwork is discernible on the print. He has also a "Girl with a Stick" (211), who is safely out of reach. What a title!

Only one portrait is here from the erstwhile famous hand of Mr. Hollyer, and that is "E. W. Hornung" (153)—a gentleman whose attitude, though possibly characteristic, does not by its lines of grace merit this immortalisation. Mr. Hollyer might at any rate have trimmed off his lace-up boot that the sitter nurses so aggressively.



153 ERNEST WILLIAM HORNUNG

MESSRS. A. AND F. READ

do not fulfil last year's promise. Their "June" (154) is a nice little bit, showing small trees in a meadow; but their "Shadows" (198)—a print in blue—is of less account.

VICTOR STOUFFS AND VISCOUNT MAITLAND.

A very good attempt at the awful effect of the flame and smoke in a manufacturing town has been made in "Industrie" (157) by M. Stouffs; but, pictorially, such things "won't come." His "La Tamise à Londres" (196) is more successful. From a high point of view, presumably a bridge, we look down on a flotilla of barges that remind one of a migration of black beetles.

Viscount Maitland for "On the Banks of the Axe, Somersetshire" (164), has an excellent subject, but it is rather a monotonous gum print. There are no half-tones so much as suggested in "On Hampstead Heath" (209). We think the pretty little girl named "Marjory" (251) worth half a dozen of it.

209 On Hampstead Heath Viscount Maitland

FERDINAND LEYS AND DR. OTTO ROSENHEIM.

A head only of a "Pêcheur" (166) by M. Leys calls for no special remark. Neither do the three works of Dr. Rosenheim, whose "Dutch Canal" (169) is spotty and entirely wanting in breadth of effect. Three old women quarrelling afford a fairly humorous subject for "A Bargain (189). Undoubtedly the best of the three works is "In Frankonia" (234), where, unfortunately, the clouds are badly drawn and unconvincing in their spottiness.

CAVENDISH MORTON AND E. H. HAIG.

Mr. Morton's "Big Chief" (174) is a Red Indian dignitary, and we welcome him amongst the other distinguished folk here. A capital snapshot of "The Fish Stall" (175), of which the darkness passes very well for early morning light, is sent by Mr. Haig, whose gum print, "Idlers" (217), is good enough, but in no way remarkable.

PIERRE DUBREUIL AND MABEL JENNINGS.

"A Maiden's Profile" (177), by M. Dubreuil, has sufficient description in its title. There is nothing more about it. His head and bust of a nude man in "L'Homme aux Chardons" is more important, however, and by reason of its background it is a very effective piece of work.

There might be some possibilities in Miss Jennings's "Design for a Poster" (178), but we doubt it.

170 Pierrot

By Mabel Jennings.

DR. T. G. CRUMP, DR. T. G. BOON, J. PAGE CROFT.

Dr. Crump's little girl walking along the sea shore with a spray of seaweed reminds us of the pot-boilers of Mr. Margetson in the shop windows, except that the shore itself is much nicer in the photograph

Dr. Boon's "Mother and Child," pleasantly printed in a Bartolozzi red, is a very delightful thing, and we are sorry it is his only exhibit.

Owing to the subject, and the effect of a red print on a greenish paper, we get a rather sleepy effect altogether in Mr. Croft's "Portrait—Mdlle. Lygie" (199). He also sends another nice head called "A Study" (250).

W. B. POST AND MRS. E. D. GIRDLESTONE.

An excellent little snow scene comes from Mr. Post, "Road over Intervale" (202), as well as a view on a large pond on which a little fishing boat and a peppering of water lilies only just save "Lovewells Pond" (248) from emptiness. In Mrs. Girdlestone's "Sorrow" (206) we have an obvious enough allegory supplied by a lady with a mournful face and sad robes. The work has good qualities, however.

C. WINTHROPE SOMERVILLE AND C. H. HEWITT.

If the monk that parades the cloisters in "A Passed Century's Impression" (216) was the genuine article, then Mr. Somerville had a most lucky shot. The light is effective.

A very nice river scene, dominated by a cathedral, is the work which Mrs. Hewitt calls "The Curfew Hour" (220).

MYRA A. WIGGINS AND E. MILLS.

All things considered, we consider Mrs. Wiggins's picture called "Polishing Brass" (207), one of the finest in the whole room. It is certainly the most pictorial, and is exactly like a print after Chodowiecke, both in subject and feeling. A woman is seated at a table with metal utensils of quaint and interesting form. The whole thing is quiet, healthy, exceedingly well designed, and beautifully in keeping—an example for hundreds. Mr. Mills's convincing London scene is a capital view on a wet day in "Billingsgate" (208).

207 Polishing Brass

FRANK W. BIRCHALL AND J. C. S. MUMMERY.

No. 227, "Blythe is she by name and nature." We take Mr. Birchall's word upon both points in default of actual evidence. His "Portrait—Jackson Dawson, Esq." (223), is much more blythe to our minds. We are glad to arrive at Mr. Mummery's pair of gum prints. There is nothing more poetic in its way than "A Lea Malting" (235) on these walls. It looks like a noble Rhine castle, and is full of effect. His "Afternoon in Winter" (240) is somewhat less masterly, but has fine qualities. Its sadness of tone is well excused by the title.

M. ARBUTHNOT, MAURICE BUCQUET, AND W. FISHER WARD.

Mr. Arbuthnot's view of "Eynsford" (236)—once more!—is not a bad selection, but is all a dark brown, and therefore we have no patience with it. M. Bucquet has made a picture by the smoke from a tourist steamer, without which his "Lac du Bourget" (237) would be nowhere. We much like Dr. Ward's "Cliffs and Clouds" (239) also.

CATHERINE EDMONDS AND JANET HAMILTON.

Following up her last success, Miss Edmonds's "Priscilla the Spinner" (243) has been made to do without a background. The figure is very pretty. And so is the little child who nurses a Japanese doll, and whom Miss Hamilton tells us is "Mary" (242).

JOHN C. WARBURG, ARCHIBALD COCHRANE, AND LEONARD A. PAYNE.

One of the nicest things we have seen from Mr. Warburg hangs here, his only work, "The Shadow of the Cliffs" (245). But Mr. Cochrane is retrograde, with his "Forest Scene" (244) spotty and black as pitch. We shall look for recompense next year. The "Silent Pool" (247) of Mr. Payne is a hard print. It wants quality and less hand work.

Our last remark and the last picture in the Gallery is also the least. "Babs—a miniature" (253), by

MISS AGNES JENNINGS,

is good.

The following specifications of patents relating to photography have been published, and copies may be purchased at an uniform price of 8d., at the Patent Office, Sale Branch, 25, Southampton Buildings, London, W.C. The price of the specifications includes postage to any part of the United Kingdom. The additional postage to foreign countries is usually ½d. per specification. Postage stamps must not be sent on payment of any amount exceeding 11d. In ordering the name of the patentee and both the number and year of the patent must be given.

1902.

19,162.—Wood. Printing frame.
23,466.—Archer. Films.
23,598.—Seed. Shutters.

1903.

9,014.—Rochester Optical and Camera Company. Film holders.
16,111.—Fralev. Plate developing machines.

PHOTOGRAPHY, No. 776, Vol. XVI.

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NOTICE TO CORRESPONDENTS.

In all publishing matters, letters, orders, etc., should be addressed, Iliffe & Sons Limited, 3, St. Bride Street, London, E.C.

LEADER

The Pictorial not Everything.

The opening of the exhibitions, limited to pictorial photography as they are in reality, although only one admits the limitation, has brought that application of photography once more into great prominence. While it is, beyond a doubt, pictorial work of a sort that attracts the greatest number of recruits to the army of photographers, it is just as well to remember that this side of photography is not the only one; and, what is more, that it is a side which does not appeal to the general public to any great extent, and we believe never will.

It is occasionally said that the R.P.S. gives too much attention to the scientific and industrial aspects of photography, to the detriment of the pictorial, but the charge is, in our opinion, altogether unfounded. We are not prepared to say that it gives as much encouragement to the pictorial side as it might do; in fact, it does not, but the encouragement it does give is out of all proportion to what it gives to the other branches. It would be a good deal nearer the mark if it were said that it neglects all the applications of photography with rigid impartiality, tendering a slight and feeble assistance to the scientific basis of photographic operations, and that only. This last we attribute to some sort of lingering impression that no society of its kind is efficient unless it is an imitation of the Chemical Society, and that the methods of that last named body, however good or bad they may be for its own objects, are to be followed strictly in the photographic society, although its aims should be so different.

The result of this tendency is that the society does not encourage adequately either pictorial, professional, or applied photography. The only subjects that seem to be welcome at its meetings or worthy of its support are those of chemistry and physics underlying photographic operations, excellent in themselves, but amply provided for by the Chemical and Physical Societies, and neither understood nor appreciated at the R.P.S. It is well to "clear our minds of cant" in such matters. If we do, it will be patent, and will be admitted that this is so. Take the papers read before the society in the last twelve months, and we find that almost without exception they would have been better dealt with elsewhere. We might point, for example, to an admirable one by Mr. Carson. It is very doubtful if there were four members present at the R.P.S. who were able to follow this communication, which on the other hand would have been welcomed and understood at the Physical Society. Other examples of the same sort of thing will occur to anyone who runs over in his mind the list of subjects dealt with at its meetings.

We do not say that no such papers should ever be read at "the Royal," but we do say that it is absurd to expect a society to exist and to flourish upon communications which are out of the depth of most of its members, and that in neglecting almost entirely photography itself—the taking of photographs—and in dealing only with certain limited matters of physics and chemistry with occasional—very occasional—lapses into art, the society is not filling the sphere it might fill.

We believe that there are upon its council men who are both capable of guiding it into the right path and willing to do so, and cannot help thinking that this the commencement of a new session—and that its fifty-first—might well be made the starting point of an era of wider sympathies and extended influence.

Spirit of the Times

OF TECHNICAL AND OTHER EDUCATION.

The meeting of the British Association this year has attracted a great deal of attention once more to the subject of technical education. Particularly is this the case for photographers, since, in addition to the fact that Sir Norman Lockyer, the president, devoted his presidential address to the subject, the greatest authority on photography figures this year as president of the Educational Science Section. Upon the question whether or not the British nation takes full advantage of the benefits that education may confer, few people, we think, would differ. Whether we are quite as far behind other nations as some would make out is by no means as clear. What is undoubted in our minds is that there is not half as much scientific method in our educational schemes as there might be. The economy of educational effort, no less than of money, is conspicuously absent in most of the plans which are put forward. One need not look further than general compulsory elementary education to see this. The idea that everyone should be taught certain matters, and will be benefited thereby, is about as wasteful a plan as could well be adopted. True it ensures that those who are fitted by nature to profit by what is taught will secure the opportunity of so profiting. We are by no means prepared to endorse the popular belief that it is to the public advantage that everyone should be able to read and write, much less that they should go through some of the other subjects of the Board School curriculum. That all should be educated is plain, but that reading and writing should be part of such education is not so clear. Radical as such a view may be, that it is not entirely fallacious can be seen by anyone who notes the progress of any fifty Board School scholars picked at random. Whether ten per cent. are in any way benefited, either mentally, morally, intellectually, or financially by the knowledge they acquire is doubtful. Those who profit most are the purveyors of the printed matter which is purchased in the greatest quantities. No more scathing condemnation of modern educational methods can be found than the fact that so far from making a man better fitted as a producer to take his place in the national economy, they too often are regarded as a bar to employment by employers whose interest it is to select those best fitted. This holds good of photography as much as of any other handicraft.

* * *

THIS YEAR'S SALON.

It is not too much to say that the Salon this year is a disappointment. It is uninteresting, and to be interesting has always been its most obvious aim. Not only is the bulk of the work mediocre, but there is also an entire absence of the conspicuously good, and even of the conspicuously bad. With very few exceptions, Mr. Craigie amongst the number, the reputations of the best known exhibitors will suffer by the work shown, while of new men of note there is little or no sign. From the figures which we give in another paragraph, it will be seen that there is a marked disproportion between the average number of exhibits shown by members of the Linked Ring and the average by non-members. Indeed, the most prominent apologist of the Ring has said, "Unless the members discontinue working, the majority of work shown *must* necessarily be by members." Such a policy can only have one result—that of making the exhibition "academical," and of forming a school or cult of which the members of the Ring are the exponents. The selection committee favours a certain type of work, and that only. The limitation of exhibits to work which "gives evidence of personal artistic feeling and motive" has been lost sight of, and in its place is a new, or at least an arbitrary, standard, which excludes a great number of exhibits that certainly give evidence of artistic feeling and motive, though not on the lines of the "old masters," so to speak, who organised the Ring ten years ago. We do not say that these exhibits are actually rejected—they may not be sent—but, at any rate, they do not show themselves on the walls. This year's Salon is just a humdrum exhibition which bears the same relation to pictorial photography of its time as did the exhibitions of the R.P.S. ten or fifteen years ago.

* * *

SALON STATISTICS.

An examination of the catalogue of the Salon enables us to draw some interesting statistics as to the proportion of the exhibits contributed by various groups of exhibitors. Thus the total number of pictures is 253, which are sent by ninety-six exhibitors, so that each exhibitor is represented on an average by 2.6 exhibits. The total is as exactly divided between members of the Linked Ring and non-members as an odd number can be, there being 127 exhibits by Links and 126 by outsiders. The number of members of the Ring who exhibit is, however, a decreasing one, and this year, although the list of members in the catalogue contains seventy names, thirty-one of them only are represented on the walls. These thirty-one, as we have said, contribute 127 exhibits, or 4.1 each on an average. The sixty-five outsiders, who are represented by 126 exhibits, thus average only 1.94 each. Geographically considered, the exhibition draws from seven countries—British Empire, the United States, France, Belgium, Austria, Italy, and Switzerland—by far the greatest number of exhibitors (sixty-three in all) coming from the United Kingdom. Nineteen hail from the United States, eight from France, two from Belgium, and the other countries have one each. The United States, it may be noted, are rather more in evidence than these numbers suggest, since the average number of exhibits sent thence works out at 3.2 per exhibitor, as compared with 2.6 when all the exhibitors are taken, or 2.4 when European exhibits only are considered. On looking through the list of names, however, the absence of nearly all those workers from abroad who helped to make former Salons notable is very marked, and when we name Mrs. Cabot, Eugene, Holland Day, Henneberg, Mrs. Kasebier, Keiley, Kuhn, Dr. Spitzer, Stieglitz, Steichen, and Clarence White we have by no means exhausted the list.

* * *

INSPIRED EULOGY.

The lay press in its notices of the Salon has given no small degree of prominence to the work of Mr. Coburn. We are far from anxious to belittle that gentleman's really fine exhibit, but it is well, not for his benefit alone, but for that of the great body of pictorial workers who trust for artistic support to such broken reeds as the lay press affords, if we point out that this unanimity is not so valuable as it would be if it were either spontaneous or informed. On press day at an exhibition of this kind, a number of scribes, male and female, are sent by the daily papers, and the exhibition authorities tell off one or two to inspire these critics, or at least to provide them with copy. At this year's Salon, we believe, most of this work was undertaken by a volunteer, who for reasons of his own glorified the work of Mr. Coburn in a way which he was quite unable to justify. More than one enquirer desired to learn the nature of the super-excellence of some particular picture, but, instead of getting any information on the point, he was promptly led off to another exhibit, about which a similar adjectival torrent was outpoured. Hence it would be well if those who read such "criticisms" would note that they are by no means spontaneous, and perhaps Mr. Coburn himself may be glad of a hint to draw the line between genuine and fictitious appreciation. He will not be the first worker who has had conferred upon him altogether spurious commendation, which had its origin, not in his own merits, but in the desire of some critic, for reasons into which we need not enquire, to adopt a dogmatic pose, and to deliver *ex cathedra* opinions from a little home-made tabernacle.

The Bolt Court Technical School. Session 1903-4.

ALTHOUGH the Bolt Court Technical School for photo-engravers, photo-lithographers, designers, and workers in kindred branches of process work started from small beginnings, under the fostering care of the London County Council it is attaining a position not unworthy of the craft. The principal, Mr. A. J. Newton, from the experience he has had in commercial houses, is in a position to direct the energies of the pupils into the most useful channels, and he is supported by a band of assistants who either have been or are now in charge of departments in houses noted for their success in photo-mechanical work.

The tuition is restricted to those who are actually engaged in practising for their living the arts and crafts taught in the school, whether as apprentices and improvers, or as workmen desiring to extend their knowledge and to perfect their skill. Applications are entertained from parents who intend to place their sons as apprentices to any of the trades dealt with, who may be desirous of giving them the advantage of a preparatory day or evening school training. It is wisely pointed out in the prospectus that, in deciding upon a course of study, it should be remembered by the student that, while it is very important to him to have a good general knowledge of the different branches of his business, it is of still greater importance that he should be able in actual everyday work to do one thing really well rather than a number of things only fairly well, and this being so, students are required to concentrate their energies as much as is possible, and not to attempt too much.

The school is well equipped with the necessary appliances for study and practical work, and the fees are very moderate, while learners and improvers are admitted free. The session is divided into three terms, beginning on the 28th inst. In such a craft as photo-mechanical reproduction, which is daily extending in new directions, it is desirable that those who are engaged in the practice of it should keep themselves acquainted with all new departures, and the Bolt Court School offers opportunities in that direction. The prospectus may be had on application to the principal, Mr. A. J. Newton, 6, Bolt Court, Fleet Street.

FORTHCOMING EXHIBITIONS

SOCIETY.	OPENS.	ENTRIES CLOSE.	SECRETARY.
Coatbridge P.S.	October 17	September 28	The Secretary, Ailsa Cottage, Coatbridge, N.B.
Isle of Wight P.S.	October 21	October 13	J. H. Burgess, 53, Pyle Street, Newport, Isle of Wight.
Belfast Y.M.C.A.	October 28	October 14	D. J. Hogg, 3, Trinity Street, Belfast.
Frome M.I.	November 5	October 24	Bernard J. Mitchell, 3, Willow Vale, Frome, Somerset.
Edinburgh Industrial	November 5	October 17	A T. Huchinson, 7, North St. Andrew Street, Edinburgh.
Hackney P.S.	November 11	October 26	Walter Selfe, 70, Paragon Road, Hackney, N.E.
Braintree and B.C.C.	—	October 30	W. P. Dreaper, Coggeshall Road, Braintree.
Friary Bazaar	—	October 31	H. Sharp, 105, Muster's Road, West Bridgford, Nottingham.
Sheffield P.S	November 17	November 3	J. W Charlesworth, 1, Joshua Road, Sheffield.
Sunderland P.S.	November 18	November 2	W. E. Kieffer, 1, Stirling Street, Sunderland.
Southsea P.S.	November 18	—	F. J. Mortimer, Pembroke Road, Portsmouth.
Tunstall	November 18	November 7	C. J. Eardsley, High Street, Tunstall, Staffs.
Edinburgh P.S.	November 21	November 7	J. S. McCulloch, W.S., 3a, North David Street, Edinburgh.
Hove P.S.	December 2	November 23	A. R. Sargeant, 55, The Drive, Hove.
Glasgow E.A.P.S.	November 28	November 23	A Walker, 80, Garthland Drive, Dennistoun, Glasgow.
Southampton P.S.	December 11	December 2	S. G. Kimber, Oakdene, Highfields, Southampton.
Chicago S.A.P.	December 29	December 15	Society of Amateur Photographers, The Art Institute, Chicago.
South London P.S.	March 5	February 20	W. C. Marshall, 41, Glendon Road, Lee, S.E.
North West London P.S.	February 11	January 28	J. S. Fairfoull, 13, Addison Road, Walthamstow.

The Week's Meetings

THURSDAY, SEPTEMBER 24TH.

Handsworth. The Manufacture of Photographic Lenses. H. L Aldis.
N.W. London. Lantern Slide Competition.

FRIDAY, SEPTEMBER 25TH.

East Liverpool. Exposure and Development.
Croydon Nat. Pinakol P. & Pinakol Salt N. J. H. Baldock.
Holmfirth. Social Evening.

SATURDAY, SEPTEMBER 26TH

EXCURSIONS.

North Middlesex. Mill Hill.
Brentford. River Brent.
Hull. Driffield.
Coventry. Baginton.
Ashton-under-Lyne. Chew Valley.
South London. The River Brent.

MONDAY, SEPTEMBER 28TH.

Attercliffe. Enlargements of Negatives and Prints. J. Ashurst.
Southampton. Still Life Photography. A. E. Henley.
Glasgow. Arrochar.

TUESDAY, SEPTEMBER 29TH.

Nelson. Lantern Lecture. W. E. Dean.
Hackney. Anglo-Norman Architecture. J. Cox.
Manchester. Discussion on Postal Club Folios.
Ilford Ltd. Extraordinary General Meeting, 2 p.m.

WEDNESDAY, SEPTEMBER 30TH.

North Middlesex. Technical Meeting.
Balham Pictorial Postcards. A. B. Moss.
Photographic Copyright Union. Annual General Meeting.

THURSDAY, OCTOBER 1ST.

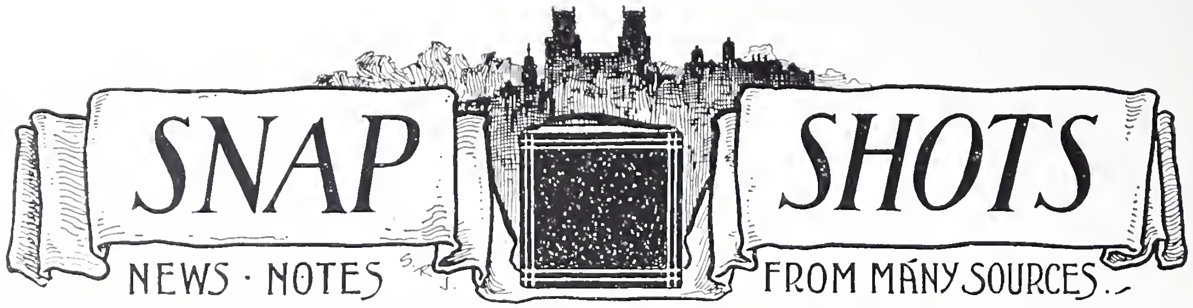
Hull. General Meeting.
Glasgow E. Entertainment.
N W. London. Lantern Slide Making. T. Coysh.

SATURDAY, OCTOBER 3RD.

EXCURSIONS.

Hackney. Highgate Woods.
Glasgow Southern. Waterfoot.

Societies will have their meetings announced here if the syllabus is sent to us at the beginning of the Session, or from time to time.



SNAP SHOTS

NEWS · NOTES FROM MANY SOURCES.

In the Austin-Edwards monthly film negative competition the prize camera for the current month has been awarded to Mr. G. Hunt.

× × × ×

The Hull Photographic Society will hold an exhibition of members' prints and slides from the 2nd to the 5th of December.

× × × ×

Jas. Redfern, Ltd. In a paragraph dealing with the flotation of this company last week, a clerical error made us state the capital as £500,000, instead of £5,000.

× × × ×

The Photographic Copyright Union. The annual general meeting will take place on Wednesday, September 30th, at 8 p.m. at the Royal Photographic Society's rooms, 66, Russell Square, London, W.C.

× × × ×

Mr. Edouard Steichen, we are sorry to report, is on the sick list, not seriously, but at any rate uncomfortably, with the prospect of a surgical operation before him.

× × × ×

Mrs. Kasebier, we are informed, sent a parcel of prints to the Salon, which unfortunately arrived too late, when the walls were completely hung and the final revise of the catalogue had been sent off to the printers, making additions to either impossible.

× × × ×

Ilford, Ltd. An extraordinary general meeting will be held at Winchester House, Old Broad Street, London, E.C., at 2 p.m. on Tuesday, September 29th, "for the purpose of considering the report of the committee appointed . . . on the 25th June last, and of passing such resolutions in relation thereto as the meeting may think fit."

× × × ×

The prospectus of the seventh annual Edinburgh and Midlothian exhibition of home workers, the prizes in which are competed for from all parts of the country, has been received this week. There are one hundred classes open to photographers and art workers, prizes in cash and kind being given in every class. Entry forms and particulars may be obtained from Mr. A. T. Hutchinson, 7, North St. Andrew Street, Edinburgh, and entries close on October 17th for all sections.

× × × ×

A use for aluminium, it is said, is as a substitute for a whetstone or hone, especially in giving a keen razor edge to fine blades. When examined by a microscope the edge of a knife or tool whetted on aluminium appears much smoother and straighter than when whetted on a stone. Under the influence of honing, the surface of aluminium becomes covered with a substance having a greasy feeling, and having a great power of adhesion to steel, and to this the ability of the metal to produce a fine edge is ascribed.

× × × ×

A growing demand for tuition in photography has induced the Principal of the Blackheath Road Commercial and Science and Art School to include it amongst the numerous subjects taught. Mr. F. W. Bannister, who has been connected with the practical teaching of the subject of the Borough Polytechnic for the last four years, has been appointed to take charge. As the laboratory is fitted with twelve sinks, thirty-six pupils can be accommodated at once, and if the numbers exceed that, the class will be divided. For the fee of five shillings any number of subjects may be taken; the first meeting of the photographic class takes place on the 24th inst., and application for a place in the class should be made to Mr. Bannister at the school.

The many friends of Mr. Hedley Smith, of the French side of the Kodak business, will learn with regret of the death of Mrs. H. M. Smith, which took place in Paris on the 16th inst.

× × × ×

Messrs. Geo. Wheeler and Co., of 46, King Street, West Manchester, are issuing sixpenny packets of masks for use in printing on postcards. There are eighteen in a packet of all shapes—oblongs, squares, ovals, and circles—many of them being the full size for a quarter-plate.

× × × ×

The sixth series of practical photographic classes will be held at the Cripplegate Institute during the approaching winter by Mr. C. W. Coe. A fee of twelve shillings is charged for twelve lessons, apparatus and chemicals free, students providing their own plates and paper. The series commences on Oct. 2nd at 7.15 p.m.

× × × ×

Velox papers cut to discs of various sizes are now stocked by Messrs. J. J. Griffin and Sons, of 20-26, Sardinia Street, Lincoln's Inn Fields. The discs are cut from the glossy, the carbon, and the special portrait papers, in sizes from two and a half to four inches in diameter, at from fivepence to eightpence per packet of twelve pieces.

× × × ×

At the annual general meeting of the Cricklewood Photographic Society, held on the 16th inst., the following officers were elected: Patron, Dr. J. J. Acworth; president, Mr. J. Stevenson; vice-presidents, Messrs. J. B. King, E. W. Houghton, M. H. Hudson, Wilfred Emery, and Dr. E. M. Payne; lanternist, Mr. F. Carter; and treasurer and honorary secretary, Leonard M. Wilde, 39, Elm Grove, Cricklewood.

× × × ×

The Scottish Photographic Federation have got to work promptly, and have issued a list of some thirty-three lectures, which are now ready for delivery among the federated societies during the session of 1903-4. Nineteen of these are tours at home and abroad, illustrated with lantern slides, and the remainder deal with photographic subjects from a technical point of view. We can congratulate the Federation upon the character of the series, and upon the energy displayed in getting it together.

× × × ×

The annual meeting of the Belfast Y.M.C.A. Camera Club was held on the 14th inst., when the following officers were elected: President, Mr. R. G. Moffett; vice-presidents, Messrs. W. M. Downing, T. F. Bell, J. J. McAuley, R. Hamilton, Dr. Allworthy, and A. R. Hogg; committee, Messrs. A. George, W. McLean, J. Moore, I. H. McMurray, D. J. Hogg, H. Rew, H. Crawford, and J. M. Busby; honorary secretaries, Messrs. H Cochrane and D. W. Elliott; treasurer, H. Cochrane.

CORRESPONDENCE.

THE R.P.S. LOAN EXHIBITION AND THE SALON.

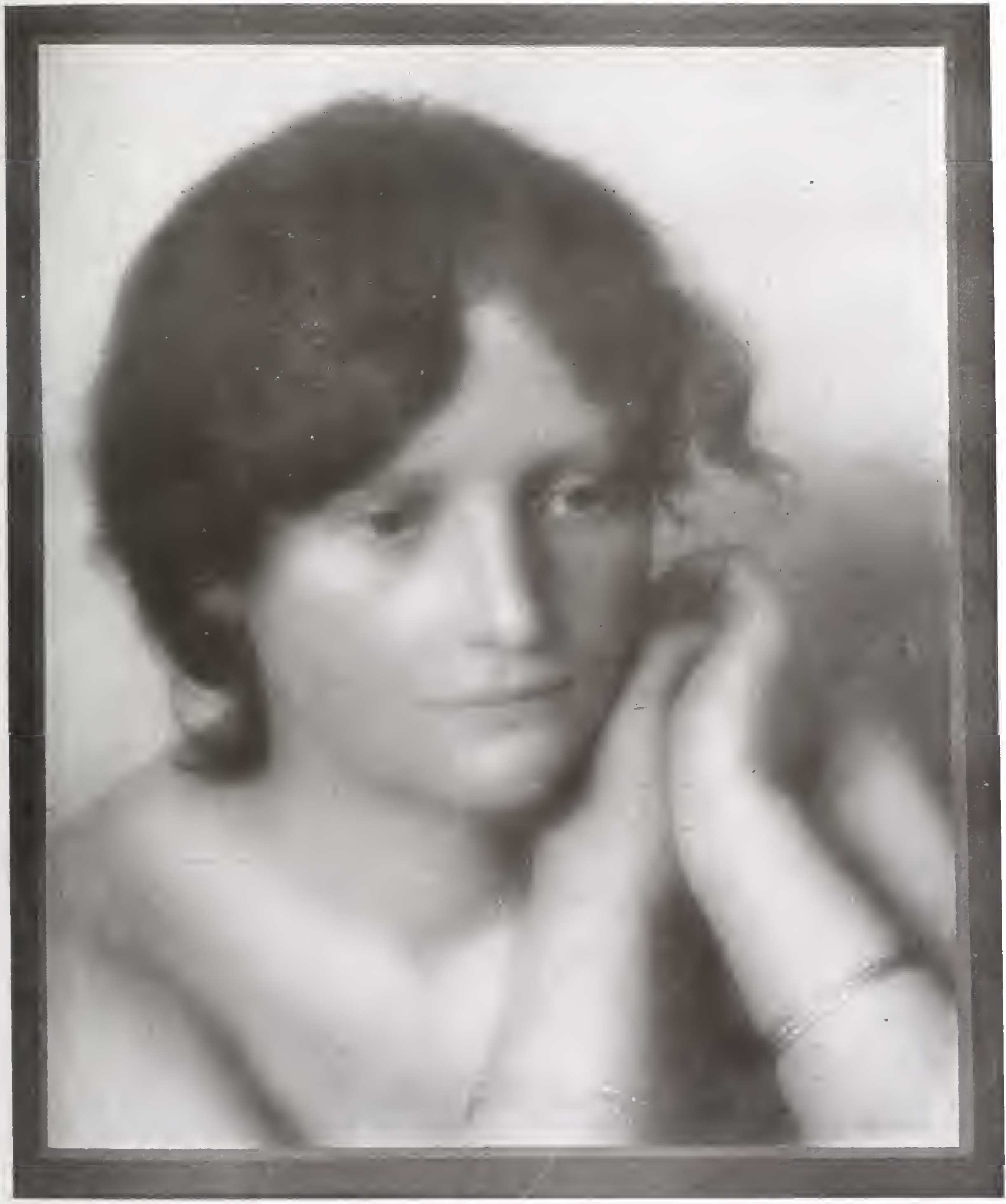
Sir,—Mr. H. W. Bennett, in his letter in your issue of last week, makes a further incorrect statement which, unless contradicted, may lead to some misapprehension. The Salon issues no "definite invitation" to exhibit; *all* pictures sent in are adjudicated upon by the Selection Committee.

With apologies for again troubling you in this matter,

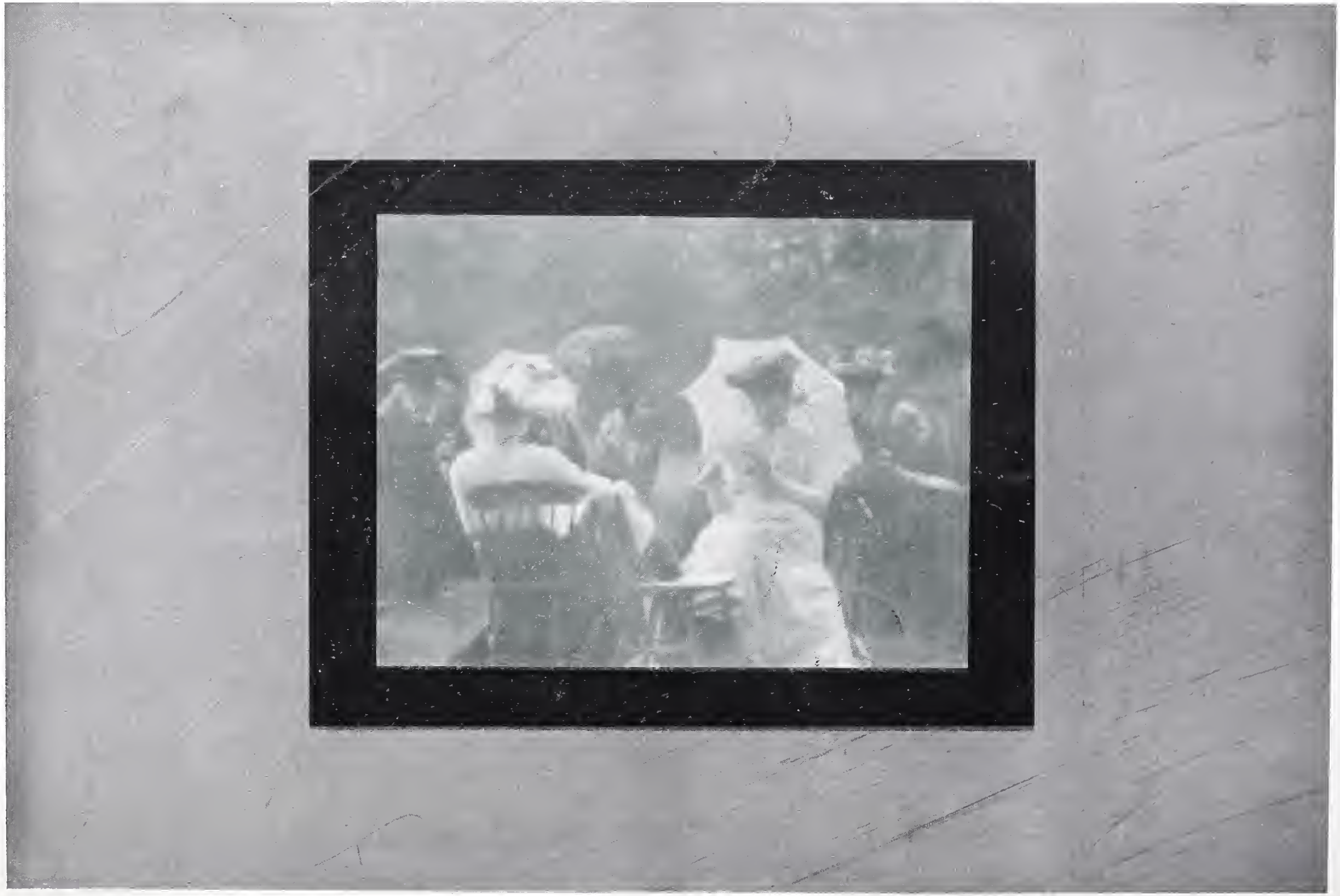
Yours, etc.,
REGINALD CRAIGIE,
Hon. Sec. Photographic Salon.

PICTURES FROM THE TWO EXHIBITIONS

THE ROYAL PHOTOGRAPHIC SOCIETY & THE SALON

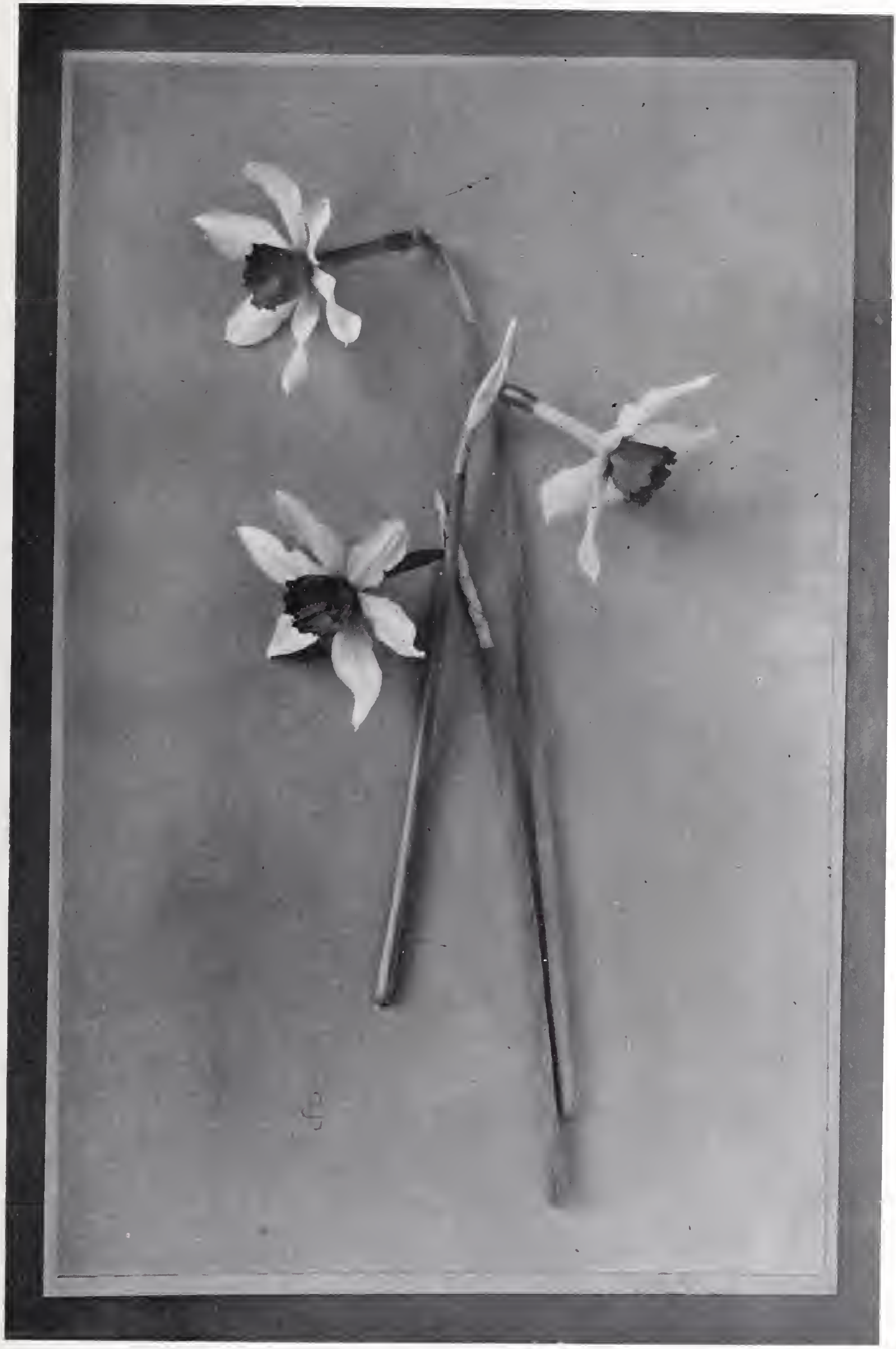


MARY. By WILL A. CADBY.



THE PARASOL.

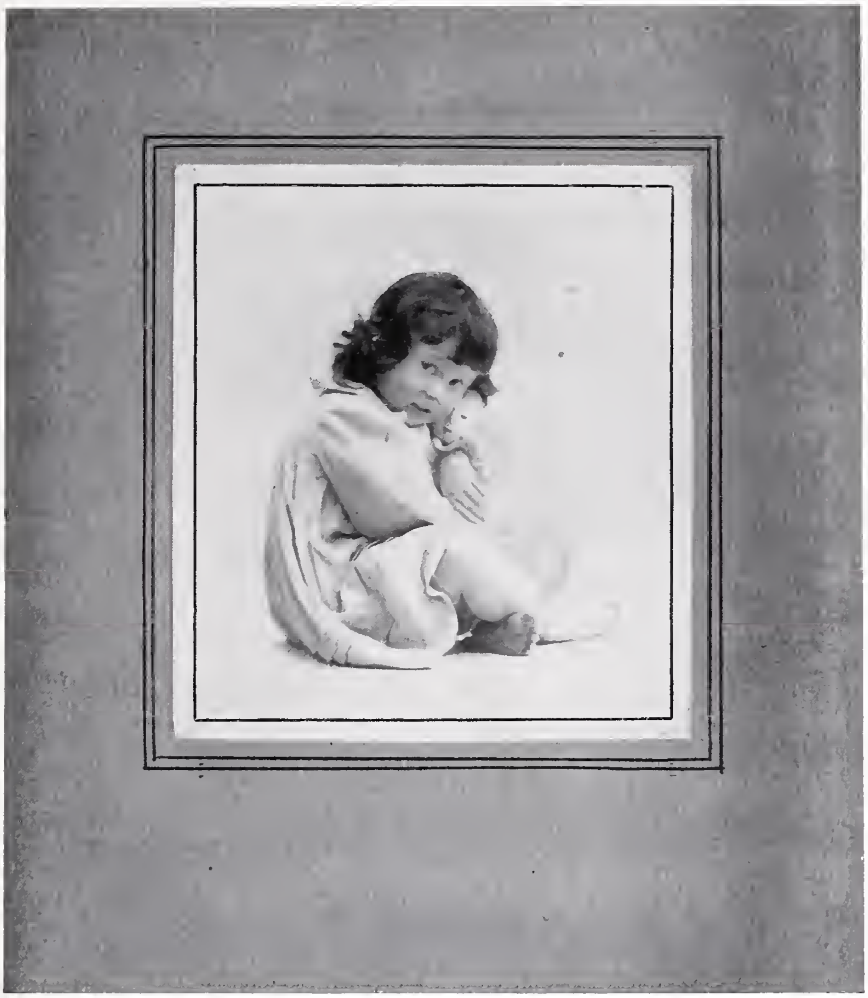
BY ERNEST MARRIAGE.



Jonquils. By Carine Cadby.

October.

By S. Stockton Horner.



Mary. By Miss Janet Hamilton

As announced in our last issue we propose to reproduce week by week during the time that the exhibitions are open, a selection of the principal works therein, the first instalment of which we are able to give in this number, thanks to the courtesy of the exhibitors themselves. The pictures which are given above are:

1.—Mary. By Will A. Cadby. (No. 88, Salon, 12in. x 9in., £2 2s.)

2.—The Parasol. By Ernest Marriage. (No. 139, R.P.S. Invitation Section, 4½in. x 3½in., 10s. 6d.)

3.—Jonquils. By Carine Cadby. (No. 112, Salon, 11in. x 5½in., £1 1s.)

4.—October. By S. Stockton Horner. (No. 113, Salon, 13in. x 7in., £8 8s.)

5.—Mary. By Miss Janet Hamilton. (No. 242, Salon.)

When a price is given it is for the framed picture, the sizes being the dimensions of the print, excluding frame and mount. Intending purchasers should communicate with the Secretary of the R.P.S., New Gallery, Regent Street, London, W.; or with the Secretary of the Photographic Salon, Dudley Gallery, Piccadilly, London, W., as the case may be.

The New Size.

A Trial Trip of the No. 3a F.P.K.

THE arrival of a new camera from the Kodak Co., together with a spool of film synchronised with one of the few bright days this summer, and we determined to take advantage of the opportunity and make negatives while the sun shone. Accordingly the train was taken to Stanford le Hope, a station between London and Southend, and a rather irregular course, partly along the seawall, and partly by road was followed from that village to the upland and picturesque one of Fobbing.

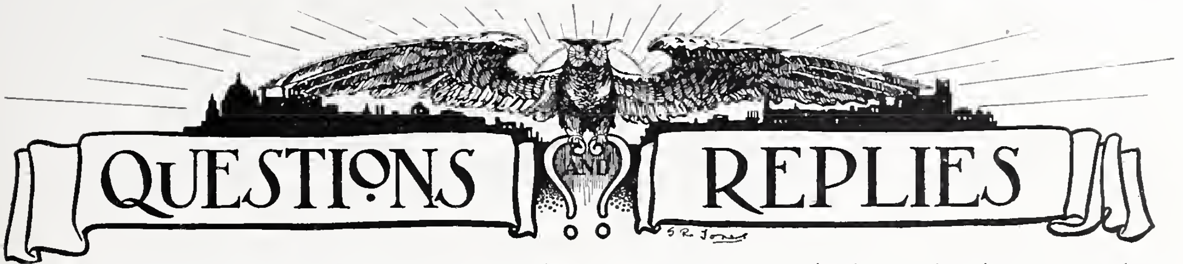
The illustrations on this page serve to show better than any words of ours, perhaps, the effectiveness of the shape that has been selected for the new camera, since the prints have all been made the full size of the film exposed, and are practically untrimmed. They are reduced, of course, in the block. The original negatives are 5½in. by 3¼in., and in most cases this proportion will be found more convenient than the stock sizes. It may be as well to point out to those who first take out a camera of this size, however, that the advantage of wasting as little as possible of the film, which is one great merit of such a shape, can only be obtained by the use of due care to see that the exact picture required is on the film. It is only when such a camera is handled that one first begins to realise how slip-shod the excess of breadth in the ordinary photographic sizes is apt to make us. A little more sky above the highest point than we actually want, a little foreground that may be cut off afterwards, is disregarded when we are using a plate which we know is much squarer than our final picture will be; but we must not play tricks of this kind when we employ a size which in the great majority of cases has the proportions the finished print will possess. The economy of not exposing twenty to forty per cent. more of sensitive area than we propose finally to use is, of course, beyond question.

The district is one which is not perhaps as well known as it might be to picture makers in London and the neighbourhood, although Canvey Island and Benfleet, which are not very far away, receive a good deal of attention from photographers. The sea wall, which is reached from Stanford le Hope Station in about five minutes, may be followed all the way to Kynoch's explosives works and Fobbing reached in that way, but a better plan perhaps is to leave it where it approaches the railway, and to cross the railway itself, and follow a field track beyond into a side road which leads to Corringham Village. Just before reaching the village the road turns abruptly to the left, and may be quitted for a footpath which leads straight on.

From Corringham to Fobbing is a very short distance along a picturesque lane which dips most abruptly, to rise again suddenly, to Fobbing. The church is a curious one, a well-known landmark from the river, and the village which is prosperous, thanks to the explosives factory, has some quaint corners and picturesque cottages.

The camera, need we say, worked well. The shutter with which it was fitted had one speed which sufficed to give us the horses of the reaper quite sharp and well defined, though they were moving, while the full aperture of the lens, f/8, and the non-curling film, were fast enough to give details even in the shadows under the trees of Corringham Village. For the fifth photograph, Fobbing Church porch, the camera was put upon a tripod, the lens stopped down to f/22, and an exposure of two seconds given at about five o'clock p.m.

All were developed alike, the film only being cut up after development was complete, and the result of our trial trip with the 3a F.P.K. can be best described as in every way satisfactory. The day was fine, the country picturesque, and the camera worked like a charm.



QUESTIONS AND REPLIES

Readers wishing for information upon any specific point in connection with photographic theory or practice are invited to make use of the "query form," which will be found amongst the advertisements. All enquiries must comply with the conditions stated upon the query form; those which do not do so are neither acknowledged nor answered. All enquiries are answered by post. We cannot undertake to make replies in the paper. We print below from time to time a selection from the queries we receive, and our replies.

LOCAL TREATMENT IN CARBON PRINTS.

I have to make some prints from negatives that show very strong contrasts, that is, there are one or two dark patches in each print that I wish to lighten. I have tried to reduce the spots with a camel-hair brush during development, but in all cases the brush marks show. Can you suggest any other piece of apparatus?

A metal flask filled with boiling or very hot water, and fitted with two glass tubes through the cork, after the manner of a wash-bottle as used by chemists, will enable a stream of water to be delivered with any desired force upon the dark spots, and does not show markings as the brush does. Carbon workers frequently reduce small dark spots with a piece of ink eraser after the print is dry. A more satisfactory method is to cover the back of the negative either with matt varnish or with papier mineral, and to work over the shadow portions with powdered crayon and a stump.

INTENSIFIED NEGATIVES THAT HAVE FADED.

On turning out some old negatives that had been intensified I find that in some cases they have faded, and in others that brown spots have appeared. What is the cause, how may the faults be remedied, and how can they be prevented in future?

Without knowing the methods of intensification that were adopted it is difficult to assign either the causes or the remedies. The presence of a trace of hypo in a negative that has to be intensified will invariably lead to trouble if bleaching with mercuric chloride followed by dilute ammonia is the process used. In such a case rusty spots are almost certain to appear in time. The negative should be thoroughly fixed in fresh hypo, and as thoroughly washed. Complete fixation is as necessary as the complete elimination of hypo and hypo compounds—in fact, the latter cannot be effected unless the former has taken place. Mercury intensified negatives which have faded without irregular markings may be strengthened by bathing in a five per cent. solution of Schlippe's salts. For irregular markings there is no certain cure, soaking in a freshly made up hypo bath will undo the intensification, and may discharge yellow stains. Half an ounce of a mixture in equal parts of glycerine and water added to one ounce of a saturated solution of hypo brushed over the surface of the negative, which must then be placed for some time in some cool spot where dust will not lodge on it, will in time remove many stains, but the action is slow, and may take a day or two. If the negatives are thoroughly fixed and washed before intensification, well washed between each part of the intensification process, and afterwards coated with celluloid varnish as a protection against damp and fumes, they will keep in good condition for many years.

EXPOSURES WITH THE TELEPHOTOGRAPHIC LENS.

What is the quickest way of reckoning the required exposure with the telephotographic lens under different conditions? I find I have either to expose by guess work or to waste a lot of time in making a calculation.

To reckon the exposure, the amount of magnification should be known, and as this depends upon the distance of the plate from the negative lens, a useful guide is to mark off a scale upon the baseboard. When the picture has been arranged upon the focussing screen the exposure may be calculated for the aperture in the positive lens in the ordinary way. A glance at the baseboard will give the number of magnifications, and the calculated exposure multiplied by the square of the magnifications gives the correct exposure. For example, the calculated exposure with the positive lens may be the fifth of a second, and the magnifications may be five times (linear). The magnification squared will be twenty-five and the required exposure will be five seconds.

VIEW FINDERS AND THE IMAGE ON THE PLATE.

The image seen in the viewfinder does not agree with that in the negative. What is the best way to alter the viewfinder?

Much depends upon the nature of the camera. If it is provided with a focussing screen the matter is a very simple one. Let the camera be supported firmly on a tripod or temporary support, and by ruling lines on the focussing screen from corner to corner note the object that falls exactly in the centre of it. Do the same with the finder, and readjust this by undoing the fittings till the same object falls in the centre. If the viewfinder then embraces a wider angle than the image on the focussing screen, the surplus may be cut off by sticking strips of lantern slide binding round the edges. Should the lens board be provided with a rising and falling movement it will be a convenience simply to outline the amount of image which corresponds with that seen on the focussing screen by lines drawn with a fine pen charged with black varnish, the parts beyond the lines giving some idea of the alteration produced by raising or lowering the lens. Of course, if the viewfinder embraces a narrower angle than is shown on the focussing screen, a mental allowance must be made, or a new finder must be bought. In the case of a magazine hand camera a plate must be exposed and provision made for replacing the camera in precisely the same position after it has been taken to the dark room to remove the plate. The finished negative, or a print from it, will serve as a guide in adjusting the viewfinder when the camera is again placed in the original position.

COPYING A MAP TO SCALE.

I have to copy a map to one-third scale, and find considerable trouble in getting the photograph at once the correct size and in sharp focus. At the same time, the copy is usually a little narrower at one end than at the other. Can you please give me some practical advice on the matter?

The matter is only troublesome if worked at in a haphazard way. A few simple contrivances will simplify operations very much. The usual tripod should be abandoned and an ordinary kitchen table substituted, one into which a few nails may be driven for preference. As the plane of the plate and that of the map must be parallel to each other, it is desirable that the top of the table and the wall or easel on which the map is pinned should be at right angles to each other. This may be secured by running the table with one end close to the wall, and testing with a set square, which may be made by simple geometrical rules out of a sheet of cardboard. The camera, with the lens set central, is placed on the table with the lens touching the wall. A pencil line round the hood of the lens on the wall will give the position for the centre of the map. If the back of the camera is set at right angles to the base, parallelism will be secured in one direction.

To ensure parallelism in the other direction, a long T square must be bought, or two pieces of wood fitted together to make one. The head of this must be placed against the wall and the long leg nailed to the table, so that the baseboard of the camera may slide to and fro against the edge of it, so that the lens may always be opposite the mark made on the wall. As, in a well-made camera, the edge of the baseboard is at a right angle to the plane of the plate, this may now be assumed to be parallel in both directions to the map on the wall. In reducing to one-third scale, it will be necessary to clamp the camera upon a box to raise it sufficiently above the table. In this case the side of the box will run along the edge of the T square, and the mark upon the wall will be correspondingly higher.

In order to get scale and focus easily, the focal length of the lens should be known accurately, and may be found by one of the rules we have frequently given. The focus of the lens multiplied by the ratio between the original and the copy plus one gives the distance from the map to the lens, and that distance, divided by the ratio, gives the distance from the lens to the plate. The simplest way of working is to add the two distances together and cut a rod to the length. If one end of the rod is placed against the map and the other passed through the lens opening, and the camera pressed forward till the focussing screen touches it, then the camera will be in correct position for scale and the rear end clamped down. When the rod is withdrawn and the lens replaced, the front of the camera may be racked out or in to secure fine focus.

ADDING A FIGURE TO A GROUP.

In the two groups enclosed one figure is absent in one that is present in the other. What is the simplest way of adding the missing figure to one of the groups? I am afraid I am not very skilful, and would like an easy method.

The simplest method is to make a print from each negative on thin print out paper, as nearly as possible to the same depth of colour, and to tone and fix them together. When the prints have been washed and dried, the figure on the left hand side of the print marked A should be cut out very neatly with a sharp knife, and the paper at the back should be shaved away round the edges with a razor. The cut-out figure should then be pasted down upon the second group, also at the left hand side. As the figure in the original print stands in front of the others the addition can be made without trouble. As the feet of all the party are concealed in the ferns, there should be no difficulty in cutting away the lower part of the figure to fit in.

ETCHING LINES ON GLASS.

Can you tell me the composition of a fluid with which I can draw designs on glass to etch it?

We believe that the usual method of etching glass is to cover it with a thin film of a special compound of waxes, through which the design is traced with a point and then etched with the fumes of fluoric acid. The following are formulæ for etching inks that were published some time since: Forty parts of barium sulphate and ten parts of ammonium fluoride are dissolved in sulphuric acid in a leaden vessel. The second method is to dissolve equal parts of ammonium fluoride and barium sulphate in fluoric acid. The designs are drawn with a pen, a gold pen, we presume, though a quill might answer. As we have had no experience with these etching fluids, we cannot vouch for their efficiency.

STRIPPING THE FILM FROM A CRACKED NEGATIVE.

I wish to strip the film from a cracked negative and to replace it on a new glass. I have used the hydrofluoric acid method and the sodium-fluoride and hydrochloric acid methods, but they require the use of ebonite dishes, and are besides unpleasant to the fingers. Is there not some way of doing it with sodium bicarbonate?

By bathing the negative alternately in a solution of sodium bicarbonate and in a dilute acid the gas set free will in most instances detach the film from the glass, but the method is uncertain. A better plan is to cut through the film near to the edges of the plate with the point of a knife, after which it is to be soaked in a ten per cent. solution of formaline for ten minutes or a quarter of an hour, and allowed to dry. It is then to be soaked for about a quarter of an hour in a five per cent. solution of glycerine when, by inserting a knife blade under one corner, it may be removed. If a sheet of damped paper cut to the exact size is laid over the film previous to removing it, the manipulation is much easier. It may then be laid down upon an undeveloped plate from which the silver bromide has been fixed out in the hypo bath, and after washing to remove the excess of glycerine, will adhere to it when dry.

ACID FIXING BATH.

What are the comparative merits and demerits of the acid fixing bath? I notice that you discourage its use.

It is claimed for the acid fixing bath that as it keeps moderately clean for some time it is more economical, that it removes stain, and hardens the film. The economy is more than doubtful, and, as hypo is cheap enough, is not worth effecting at the possible risk of injury to the negative. An acid fixing bath is always liable to decomposition, as we have found by experience, even when working with formulæ that have been represented as above suspicion. If a sufficiency of sodium sulphite is used in the developer there will be no stains for the fixing bath to remove, and if pyro stain is present, the acid bath will not remove it to any greater extent than plain water will. On the contrary, while it temporarily changes the colour of the stain, it fixes it permanently in the film, where it again becomes yellow in the presence of an alkali or alkaline vapour. It certainly hardens the film and prolongs the fixing operation considerably, and leaves the film in an unsuitable condition for intensification should it be required. A small quantity of sodium carbonate and of sodium sulphite added to the ordinary fixing bath will keep the stain soluble till it is washed out, as has been pointed out again and again by Mr. Chapman Jones; this too is quite harmless.

REDUCING UNTONED OVER-PRINTED PROOFS.

I should be obliged for a simple and satisfactory method of reducing over-printed untoned prints on **P.O.P.** and postcards. I have a lot of **P.O.P.** postcards printed too dark. Can they be saved?

Unless the prints are very badly over-printed indeed the best plan is to immerse them in a strong solution of common salt for from ten to fifteen minutes, or longer if need be. This will have the desired effect. Other reducers can be applied to untoned prints, such as a very dilute solution of copper sulphate and common salt, say ten grains of each in half a pint of water, but their action is irregular.

DRYING MARKS ON NEGATIVES.

I have enclosed a negative that has a mark near one end. Many of my negatives are marked in a similar way, and the marks always correspond with patches that remain wet for a time after the remainder of the negative has dried. How can these marks be removed?

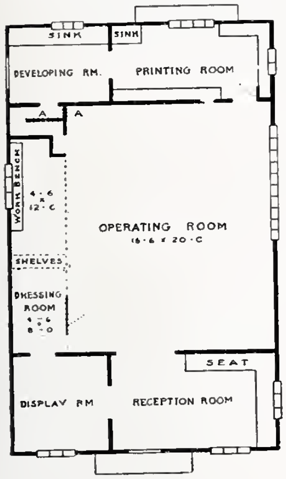
The marks are caused by stacking the negatives too close together in the rack. Changes of temperature probably take place during the drying and lead to the differences in density. The higher the temperature during drying, the darker the tint of the negative will be. The negatives should be at least an inch apart in the racks, and they should be placed where a current of air will pass between them. Space may be economised by wiping the glass dry and placing two negatives close together back to back, allowing as much space as the rack will permit between the gelatine sides. There are no means of removing the marks.

NOTICE TO ENQUIRERS.

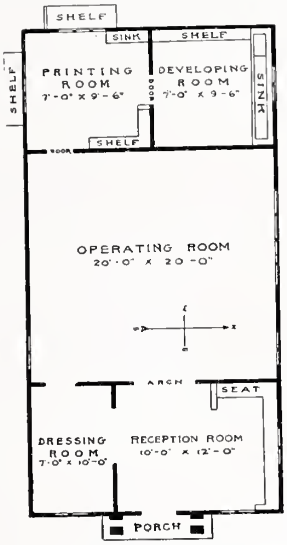
Answered by post: T. J. E., Will Crofton, E. A. Field, R. N. F., S H. Ingram, C. Paternoster, Puzzled, W. H. Church, Subscriber, Cliftonian, G. Garfield, jun., H. J., Engineer, T. A. N., R. Gregg, Incandescent Light, Alpha, W. H.. Gainsboro', W Smith, M. C. Manners, H. L , Salonist, H. Pardoe, J. R. C. Walton, Enfield, C. D. L., R. L. W. Hallett, Apprentice, C. T. S., J. C. J., Ferricyanide, S. Lazarers, Miss Dredge, Liverpool, George Graham French, F W. Tuppenny, An Admirer of *Photography* Arthur Heckford, A Shareholder, Mrs. Crane, Hon. Mrs. Barton. H. T. Rudd, C. Wallis, Competitor. J. C., T. Johnson, Gold Bath, Clapham, Cyclist, W. Ravenscroft, G. L. Norton, F. Philpott, W. McManus, Glasgow, Senex, H. P. Pynfold, H. F. O. Neill, Anti-German, E. L. Grover, X. Y. Z., Blisters, T. H. Cleaver, Adon, Tella, Elsie Stringer, Subscriber, W. Hollier, Bedford Park, Harry Warwick, Klito, H. J. W., W. T. Anderson, S. Moir, Musician, J. S. Henderson, Darlington, W. Scott, E C. Traill.

The Arrangement of Studios and Dark Rooms.

THE question of arrangement of premises is one which confronts most professional photographers and a good many amateurs. So generally interesting is it that one of our contemporaries, *Camera Craft*, is running a special competition for the best illustrated article on practical studio building. In the meanwhile it gives plans for some suggested buildings from which the two reproduced herewith are selected. One is by Mrs. Tolman and the other by Mr. C. C. Foley.



MRS TOLMAN'S SKETCH



AN ARRANGEMENT BY CHAS C FOLEY

A New Adhesive Paste.

THE *Druggists' Circular and Chemical Gazette* gives a formula of a novel kind for a paste which is said to be able to resist water (cold or hot), and which is also unaffected by alcohol or acids. Two solutions are made as follows:

No. 1.	
Chromic acid	2½ parts
Strongest ammonia	15 parts
Sulphuric acid	½ part
Cuprammonium solution	30 parts
Fine white paper (unsized)	4 parts
No. 2.	
Isinglass	q.s.
Acetic acid	1 part
Water	7 parts

Dissolve sufficient isinglass in the acetic acid solution to form a thin mucilage. No. 1 solution is applied to one sheet of paper, and No. 2 solution to the other sheet, and the two are then pressed together and dried. This should prove very useful for many purposes in the photographic laboratory, such as the making of extempore dishes of paper for containing solutions in ordinary use when a regulation dish is not available. It will be seen that the resulting sheet formed will be very similar to the well-known Willesden paper, since the dissolved cellulose in No. 1 will be precipitated in the pores and upon the surface of the paper by the acid solution of isinglass, and thus be practically as impervious to water as if coated with celluloid.

Opaque Bottles for Light-sensitive Substances.

SOME of the chemicals used by photographers undergo a gradual change under the influence of light; this is notably the case with solutions of potassium bichromate, and of potassium ferricyanide, and with gold and platinum toning baths. They should therefore be kept in bottles that are light proof. Mr. L. P. Cone, in a letter to *Western Camera Notes*, gives the following method of making bottles suitable for such purposes.

He tells us that he takes common shellac, and dissolves it in alcohol (probably methylated spirit would do) to the consistency of a thick varnish. Alcohol and lampblack, drop black, or frescoer's black are also mixed to the same consistency, and then for coating bottles two parts of No. 1 and one part of No. 2 are mixed together. The bottle is coated with this, with a varnish brush. After drying (which takes but a few minutes) another coat may be given if necessary. Bottles coated with this may be washed of any chemicals splashed on them or running down from the neck in pouring, and are very hard to scratch.

A Book of Reference.

THE third edition of "Die Photographischen Processe," published by Wilhelm Knapp, of Halle, is to hand. It is a large book containing over five hundred pages of valuable matter, and though in many ways rather similar to the large work written by Eder on emulsions, it does not enter into such advanced details.

Its author, Pizzighelli, has prepared it for "amateurs and tourists," but its bulk certainly disqualifies it for the latter. It treats in a very practical manner of almost everything photographic, but the preparation of emulsions is held rather in abeyance, whilst the use of plates and printing papers, their development, etc., is brought into prominence. Each operation commonly practised, such as toning, intensifying, development for warm tones, and so forth, is dealt with at considerable length, and, needless to say, formulæ galore are interspersed.

As a text book of photography, we can hardly recommend it, simply because it is too full of information, but as a reference book both for the beginner and the expert we can certainly advise its purchase. The price is 8s., or 10s. in cloth.

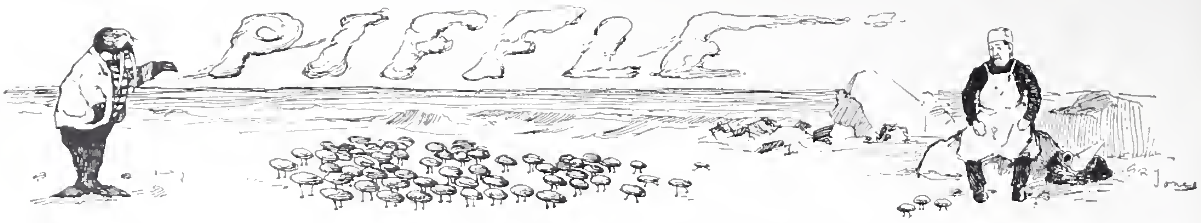
Marion's Christmas Mounts.

THE conventional Christmas card has been superseded of late years to a very great extent by the photographic variety. As the years pass this supersession becomes still more marked, and the demand for cards of a suitable nature upon which to mount the photographs arises earlier each season. Doubtless the early demand is made by those who desire to send to their friends and relatives across the seas greetings embellished with photographs of themselves, the home, or the domestic pet, as is suggested by Messrs. Marion and Co., of 22 and 23, Soho Square, in sending us samples of the new mounts they have brought out.

The mounts are issued in all sizes from postage-stamp size up to half-plate, and are marked by exceedingly good taste, as indeed is customary in the goods placed upon the market by Messrs. Marion and Co., everything of an eccentric or bizarre nature being eschewed. Florentine, floral, and Arabesque designs predominate, and are blocked either "blind" or daintily relieved with gold and harmonious colours. The cards range in tint from pure white and ivory to dark neutral grey, and it would be difficult to produce a photograph in an agreeable colour for which a harmonious match could not be found in the series.

The mounts appeal alike to those who produce photographs for their own use only and to the commercial photographer who finds that supplying photographs of the nature indicated is a profitable branch of his business. The prices range from fourpence per dozen upwards.

SOLDERING GLASS. The *Pharmaceutical Era* gives a method of soldering glass which may at some time prove useful to the photographer. A compound of tin ninety-five parts and zinc five parts forms a solder which melts at 200° C. and then firmly adheres to glass. Or an alloy of ninety parts of tin and ten parts of aluminium, which melts at 390° C., adheres like the preceding to glass and is equally brilliant. With either of these two, glass may be soldered as easily as metals by one of the two following methods. In one method the glass is heated either in a furnace or over a smokeless flame to the melting temperature, and a stick of the solder is rubbed over the surface. The alloy will melt and can be easily spread by a rolled strip of paper or by a small rod of aluminium. Press the parts firmly together, and keep so till cool, and the parts will be firmly united. In the other method a common soldering iron or rod of aluminium is heated in the fire or flame. The hot iron is passed over the alloy and then over the pieces to be soldered. Care should be taken not to overheat the iron or glass to a greater temperature than the melting point of the alloy, lest the latter becomes oxidised, as it will then fail to adhere. This alloy would also probably be useful in forming small mirrors if spread evenly and smoothly over any glass surface.



"The time has come, the Walrus said, to talk of many things."

I DON'T know exactly why it is, but it seems to me that this paper does not run enough competitions. True, there is an annual tussle amongst professional photographers for the pot glorious; but even that, I believe, is given away empty. Meanwhile, a contemporary has added to its list of competitions one of a decidedly original nature, consisting as it does of a series of astounding conundrumitious questions on photographic and other topics; and the one who answers them most correctly (and writes nicely) is to have a pretty picture-book.

I was going to have a cut at it myself; but when I found I could answer all the questions, it was borne in upon me that others could do likewise, and that I should be sure to lose the picture-book because of my bad writing and worse spelling. So I refrained.

* * *

The questions were something like this: An English author bears the same name as part of a ship. One of his characters states that our armies did something terrible in Flanders. Photographers are said to do the same thing when anything goes wrong. State *(a)* the name of the author, *(b)* what it was our enemies did in Flanders, and *(c)* give an example of the same sort of thing by a photographer (amateur or professional).

* * *

The answer, of course, should take this form: *(a)* The author's name is Sterne. *(b)* Our armies *swore* terribly in Flanders. *(c)* A good example will be communicated verbally by the undersigned, or over the telephone, if an indemnity is given against the fusion of the wires.

* * *

I could almost find it in my heart to run a competition myself, or start a goose club, or something. Perhaps the editor will rouse him in his throne of state, and inaugurate a competition after the manner of *Tit-Bits* by handing me 500 sovereigns to conceal in a place accessible to myself, and then persuading Sir William Abney to write an exciting detective story with a photographic *motif*, concluding with a grand finale descriptive of my finding the coins in the exact spot where I had hidden them.

* * *

This seems to me an excellent idea.

* * *

A short time ago I gave an account of some unsuccessful attempts of mine to obtain a photographic record of the mental processes (if any) going on in a friend's brain. Although I followed the procedure that was said to lead to inevitable success, the results were disastrously unsatisfactory. But where I failed at least one has succeeded, for I have just seen some photographs by Dr. Baraduc, of Paris, under the heading "Photographing the Heart."

* * *

Without further information I should have thought some of them were produced by sloshing an inadequate quantity of developer over a light-struck plate. But the queer pictures are true representations of sorrow (very splashy), expectation (developer streaked on with a brush), rage (quite fireworky), love (idiotic appearance), and religious devotion (like a germinating tomato).

* * *

It is stated that the photographs may be taken with any camera—because a camera is not used at all. The plate is wrapped in paper and held over the patient's head. Thus the heart is photographed.

* * *

The best time to carry out the experiment is "when the patient's attack is at its worst." A bad attack of piety or a paroxysm of gratitude give beautiful results resembling fireworks, comets, blurs, and other delicacies. Judging from the explanations and speculations contained in the article from which this information is gleaned, I should judge that the writer thereof would give a high-class result the first time He has evidently got a bad attack of something.

* * *

In these hard times the arrival of an unexpected parcel arouses great expectations. The other day I received a neat package by post. I looked at it—"Gold, I hope." I balanced it in my hand—"Plates, I fear." I opened it—"Coxin, by Jingo!"

* * *

The said Coxin was put up in a tin vesicle resembling those in which cycle oil is vended; and at the first glance I noticed something susceptible of improvement. For from the neck of the tin there hung a small wire corkscrew for the purpose of withdrawing the cork. Now this corkscrew should be made larger and more substantial, so that it could be carried in the pocket and produced on those joyful occasions when a corkscrew is required. One need not then blush at being possessed of such an article, as it would be a sufficient explanation of the fact to remark airily, "Just a little thing I find essential in my photographic work, you know!"

* * *

The spelling of some of the words in the directions on the tin bears the stamp of daring originality—explained by the glowing legend, "Made in Germany."

* * *

I had heard such rosy accounts of the ruddy Coxin that I determined to test its efficacy for myself, so that I might write something about it in this paper; because although it has already been fully described, my version would naturally differ from the other notices, inasmuch as mine would be distinguished by a limpid perspicacity contrasting strongly with the turgid obfuscosity of other writers. (If I were not pressed for time I should like to write that last phrase again.)

* * *

Noticing that the directions included a picture of a fair lady in a very advanced stage of evening dress manipulating the developing dish, I prepared to get as near the conditions as I could by rolling up my sleeves and taking off my collar. Then I hauled out the cork and poured forth the ruddy stream.

* * *

At the sight my intentions instantly changed. I resolved not to use the liquid for its legitimate purpose—at least for the present. For being an ardent disciple of the resourceful Mr. Baskett, I had on occasion made inroads on the varied condiments of the domestic pantry, and here was a golden opportunity of making reparation.

* * *

I determined to use the Coxin for the replenishment of the port decanter.

* * *

The contents of the said decanter had been systematically but mysteriously depleted—a circumstance attributed by the hired servant to the incurable partiality of the family cat for the wines of Spain. So for the present I must forego any account of my practical tests with Coxin. In the meanwhile I place on record three facts. First, the cats drinks less port than formerly. Secondly, it (the cat) keeps well and happy. Thirdly, the hired servant has apparently been artificially colouring her ruby lips.

THE WALRUS.

SUBSCRIPTIONS.

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PHOTOGRAPHY

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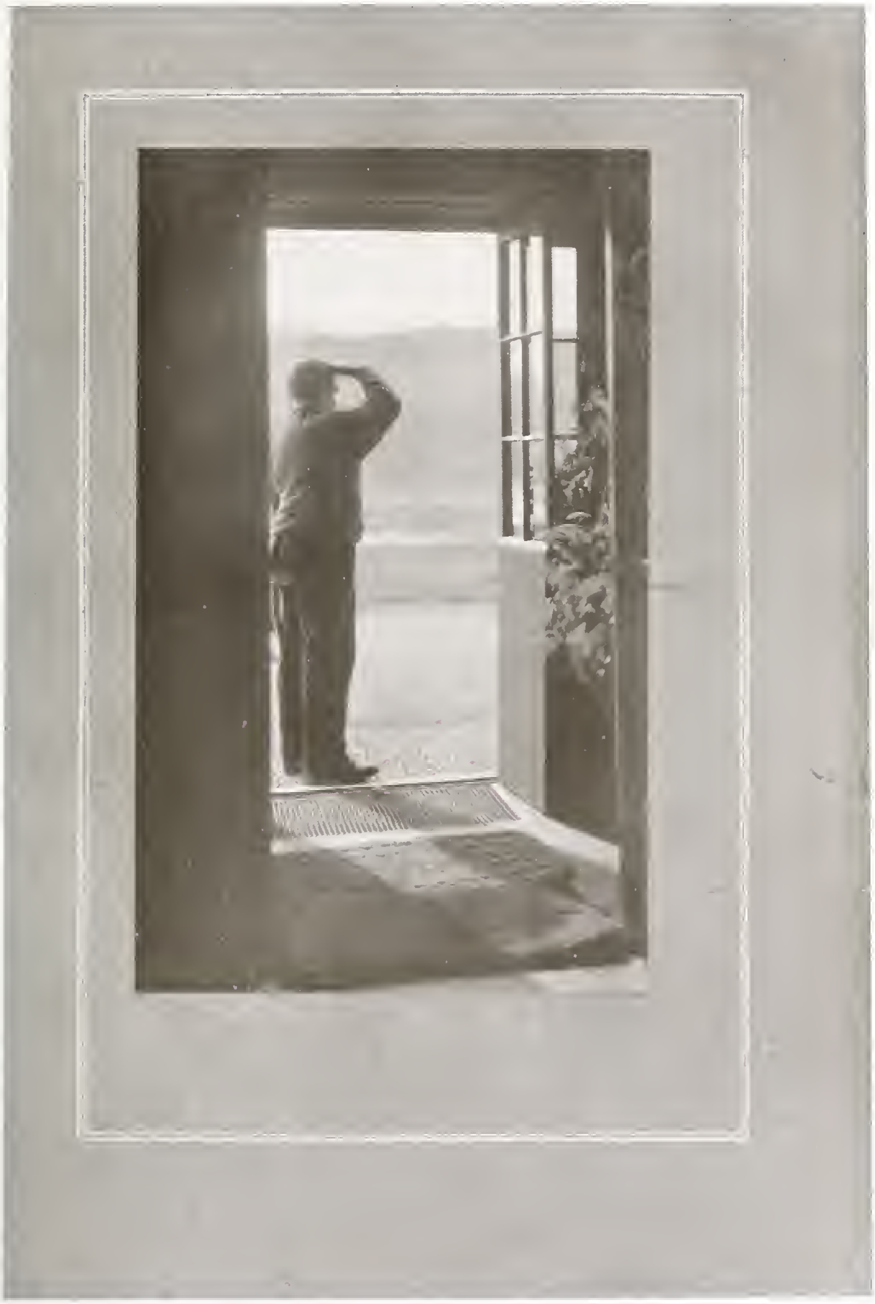

LOOKING OUT BY W. SALCOMBE.

PHOTOGRAPHY, No. 777, Vol. XVI.

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LEADER

Plate Making Research.

There is an exhibit in the scientific section of the Royal Photographic Society's exhibition which we are fortunate enough this week to be able to reproduce. We refer to Mr. Senior's photomicrographs of sections of a Cristoid film. They will be interesting to many of our readers in a general manner as showing the granular nature of the image on a plate when it comes to be examined in a powerful microscope. The interest of the photographs does not terminate here, of course, and they have a particular value from the light they throw upon the actual effect which double coating has upon the resultant image, which is thus demonstrated better than it can be done in any other way—if, indeed, it can be shown in any other way at all.

The microscopical method of research is one which has not been applied very extensively in photographic operations at any time, and yet it is one which can help to clear up a good many of the underlying physical problems in photo-sensitometry.

Some years ago we assisted in a long series of experiments upon the growth of sensitiveness in emulsions, which, as is well known, is accompanied, more or less, by a growth in the coarseness of the particles of silver haloid. This can be brought about in quite a number of methods, all based, however, upon the process of dissolving the finer particles of the silver haloid, and precipitating it upon the coarser ones—a process which takes place when the emulsion is "ripened" by the addition of ammonia, by prolonged digestion at a temperature just above the point at which congelation takes place, or by a much shorter treatment at or near the boiling point, both these latter operations demanding the presence of an appreciable quantity of a soluble bromide or of some other salt capable of facilitating the solution of the silver haloid in water.

In these experiments, which included a study of the crystallisation of silver bromide from its solutions, the microscope was constantly used, and rendered valuable assistance; but little of the revelations that the instrument gives in these matters has ever found its way into print.

The reason for this is well known. Plate-making is now a highly-organised and extensive industry, in which most of those who are fitted for its scientific study by training and taste have been absorbed.

It is customary for some people to talk about the early gelatino-bromide days as those when experiments were carried out, and to regret the dearth of such work now. There is certainly less uninstructed "groping" than there was in the early eighties; but it is safe to say that there never was a time in the history of photography when there was so much photographic research by highly-skilled persons with all the refinements of modern scientific method as at present. It is carried out generally, however, behind the scenes for the benefit of the various firms in the industry, and it is only now and again, as in the case of Mr. Senior's article, or in the note we refer to below from the Imperial Co., that any corner of the veil is lifted. This reserve at least increases the piquancy of the peep.

Spirit of the Times

SOME LIPPMAN PHOTOGRAPHS. Some photographs in natural colours obtained by the Lippman process were recently subjected to the judgment of a committee of members of the Société Française de Photographie, and were remarked upon as being so fine and technically good in every way that we think it would be interesting to state the manner in which they were made. The emulsion used was one of the type recommended by Lippman, made by emulsifying with a gelatinous solution of silver nitrate. Before using them the plates were soaked for a few seconds in a solution of absolute alcohol five ounces, ten per cent. silver nitrate solution thirty-six minims, acetic acid one minim. They thus gained in sensitiveness, particularly to the red rays. This was possibly caused by the more complete evaporation due to the acid. Development was carried out with pyro ammonia, very diluted. When the image was just visible, the plates were fixed in a fifteen per cent. bath of hypo, and then were washed, bleached with an one in one thousand solution of mercuric chloride until the disappearance of the picture. Another washing was then given, and a redevelopment with amidol developer, one-tenth the usual strength.

* * *

PICTURES FROM THE EXHIBITIONS. The first instalment of "pictures from the exhibitions," which we were able to publish last week, has brought us a number of letters from readers to whom the opportunity thus afforded for seeing work about which they hear so much is likely to be the only one they will have. This week we give a further selection. The bulk of those last week and this are necessarily from the Salon, since that exhibition opens so much earlier than the Royal. This inequality will not last, however, and we hope to have a greater proportion from the New Gallery in future issues. One of our pictures this week, "Extenuating Circumstances," is by Miss Constance Ellis, and figures in slightly different versions at both shows. Our reproduction resembles the one at the Salon, that at the Royal being reversed. It is interesting to note in this connection, that Miss Ellis, who is an amateur in the truest sense of the word, is ready and willing to sell as many of her prints as she can, this lady having in this excellent way elected to further a scheme in which she is interested for giving poor London children a country holiday. We do not need the consciousness, however, that we are helping on a truly benevolent work to spur us up to acquire one of Miss Ellis's prints. They are justly amongst those which enjoy the greatest degree of popularity at both exhibitions.

* * *

AUTUMN AND ORTHOCHROMATICS.

Orthochromatic photographers must be careful to employ suitable plates now that the autumn is coming on, as the colour of the foliage during the next two months will be distinctly different from what it has been through the summer. Instead of green leaves, we shall now have yellow, red, and brown reminiscences of the verdant clothing of the boughs, and consequently to do justice to it we must employ plates which are not only sensitive to yellow and green like the average brand of orthochromatic plate, but are easily and thoroughly affected by orange and red rays. If we use an orthochromatic plate sensitised only for green and yellow, we are able by means of a suitable filter to obtain a rendering of all colours and tints, but only with very prolonged exposure. Hence to make the length of exposure only a reasonable multiple of the normal, a red sensitive plate becomes a matter of necessity, and for use with it a filter which transmits chiefly orange and red light will be found desirable when photographing a particularly ruddy landscape. If the filter is to be made by dyeing a fixed-out plate, Titan scarlet will be found to act admirably, a one in one thousand solution being sufficiently strong. There are few makes of red sensitive plate on the market, although each one is thoroughly reliable; but now that such dyes as Orthochrom T and cyanine blue are chemicals of everyday use, preparing one's own plates by bathing is not a matter of insuperable difficulty, although it is best to buy plates duly sensitised.

* * *

THE EXHAUSTED HYPO BATH.

In a recent issue (August 22nd, 1903, page 164) we published a note by Messrs. Lumière and Seyewetz upon the subject of dichroic fog, in which the symptoms of that complaint were pointed out and methods for its removal indicated. Far better is it to prevent such a defect from making its appearance. One cause of it at least is set forth in a communication from the Imperial Dry Plate Co., in which they tell us how they traced a bad case of it in the studio of a well-known professional photographer to the hypo bath. This had been made up with a preservative intended to keep the solution clear. This object had undoubtedly been effected, but, instead of being an advantage, it was the cause of the trouble. The dark room assistant, seeing that the bath was clear, had been misled as to its power of fixation, and it had been used after it had become too weak to do its work thoroughly. When a new fixing bath was made up, the silver fog disappeared entirely. It was plain that imperfect fixation was at the root of the trouble When any trace of unfixed silver bromide had been left in the film, it was impossible to remove the brownish stain as seen by transmitted light (this was of course only to be expected), but the surface silver fog yielded in all cases to an hour's immersion in a newly mixed hypo bath of full strength. It is well known that when hypo is added to a silver salt, there are formed two compounds of sodium hyposulphite and silver, one of which is insoluble except in excess of hypo. The silver fog may thus be considered as the insoluble silver hyposulphite, which becomes soluble and disappears when immersed in an excess of fresh hypo.

The Week's Meetings.

THURSDAY, OCTOBER 1ST.

Hull. General Meeting.
Glasgow Eastern A.P.A. Entertainment.
North West London. Lantern Slide Making. T. Coysh.
Liverpool A. Sale by Auction of Photographic Goods.

SATURDAY, OCTOBER 3RD.
EXCURSIONS.

Hackney. Highgate Woods.
Glasgow Southern. Waterfoot.

MONDAY, OCTOBER 5TH.

South London. Social Life in Ancient Egypt. C. J. Marshall.
Bowes Park. Lantern Night.
Oxford. Bird Life in Spain. Col. Willoughby Verner.

TUESDAY, OCTOBER 6TH

Sheffield. Annual General Meeting.
Manchester. Negatives for Various Printing Processes. J. Shaw.
Brentford. Annual General Meeting.

WEDNESDAY, OCTOBER 7TH.

Everton. Members' Lantern Slides.
North Middlesex. Lantern Slide and General Print Competition.
Woodford P.S. English Chapter Houses. E. W. H. Piper.
Dunkinfield. Lantern Slide Making. S. T. Ainsworth.
Chester (Photo Section) Lantern Slide Test Evening.
Photographic Club. A Chat on the Two Exhibitions. H. Snowden Ward.

THURSDAY, OCTOBER 8TH.

Glasgow Eastern. President's Address and Members' Slides.
N.W. London. Holiday Reminiscences. H. S Date and J. S. Fairfoull.
Liverpool A. Smoking Concert.

FRIDAY, OCTOBER 9TH

East Liverpool. Reduction. — Drysdale

SATURDAY, OCTOBER 10TH
EXCURSIONS.

Everton. Half-day Outing.
South London. Crayford and Dartford Heath.

Societies will have their meetings announced here if the syllabus is sent to us at the beginning of the Session, or from time to time.

THE FORTY-EIGHTH ANNUAL EXHIBITION OF THE ROYAL PHOTOGRAPHIC SOCIETY.

It is always better to avoid comparisons between affairs that are so openly and distinctly rivals as are the Salon and the Royal Photographic Society's show, but without intending to be invidious we may very fairly record the impressions received upon entering the pictorial section of the New Gallery, with the exhibition of the Salon still in mind.

In the first place, the palatial room and its 369 pictures are more impressive, not to say overawing, than the *bijou* Dudley Gallery, where the panelling of the walls seems to make reviewing, at any rate, easier. We lose our way amidst the long stretches of frames at the Royal.

But as to the pictures: five minutes there is sufficient to decide the fact that the Royal Photographic Society is quite up to date. The subjects and treatment, mounting and framing, follow quite closely enough the fashions which are admittedly of American initiative. Yet in spite of the latitude such fashions permit, scarcely one picture goes so far as to be ridiculous. Most indeed are freshly and healthily conceived and elaborated.

One of the most curious and tell-tale impressions we received was that the two prints by Rudolf Eickemeyer, "Winter" and "A Summer Sea," which at the Salon stood out so pre-eminently as naturalistic and successful, here appear little, if anything, above the average level of work. It may be that the prints really differ at the two respective exhibitions, but our readers will easily be able to prove this for themselves. The fact as it stands is eloquent enough.

The Linked Ring seem to get from their exhibitors a remarkable quantity of allegorical attempts in the treatment of figure subjects, which more often miss fire altogether than hit the mark. At the Royal one sees few of such things; but a greater number of those natural transcripts that are free from any excess of pictorial pretension. As far as the principles of each institution go, it is in the nature of things that the facts should be as they are. It is a question whether sightseers like to go where they can see good photography in all its puritan primness, or whether they prefer audacious sins committed in the name of art.

The *via media* is found in the most Salonistic works at the Royal and the most Royalistic works at the Salon, and along that path must photography go if it would grow in artistic grace and seemliness. Mrs. Barton, Mr. Eickemeyer, Miss Ellis, and all others who exhibit with equal willingness at both shows are, it must follow, if our premises are correct, those who are taking the wise course that lies between extremes, and thus doing the best service for pictorial photography.

The Pictures.

JOHN A. HODGES, JAMES GALE, AND WM. MITCHELL.

These three gentlemen have only one work each here. The first displays a feeling for good atmospheric effect in "The Sentinels of the Lake" (1), which is a composition of much dignity, the sentinels being, of course, two dominating trees.

Mr. Gale's work, "A Seaport of the Olden Time" (2), is more elaborate, but excellently composed. With its mill and boats it makes a fine subject.

Another excellent composition is due to Mr. Mitchell, whose "Winter's Afternoon" (3) shows great artistic feeling.

P. BALE RIDER AND FRED JUDGE.

Of three works sent by Mr. Bale Rider, the best is by far the river scene he calls "Dimanche" (4). The barges and tugs he shows us are resting from their labours, and the whole scene, in fact, seems enjoying the laziness of Sabbath morning slumbers. "On the River" (65), which looks like a gum print but in reality is not, is not nearly so good. There are too obviously signs in it of elaborate manipulation of the negative, and, in consequence, the values are not what they should be.

Mr. Judge's "Wet Sand" (5) is a taking subject, but it seems to want more area of print. The boat is unnecessarily high up and trimmed off, leaving a preponderance of sandy foreground—a trick that has no merit except what merit may be in a bad tradition. Infinitely finer is "The Storm" (166), where waves rage and leap over a pier under a tremendous and powerful sky. Quite different is the peaceful little thing called "The Stackgarth" (347). This has quality, but is otherwise modestly endowed.

HELEN R. GATCH AND JOSEPH APPLEBY.

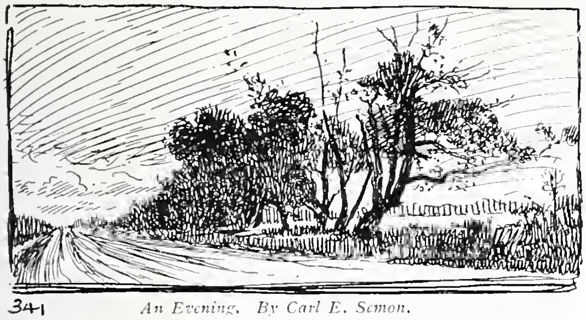
It is only necessary to notice the better of Mrs. Gatch's two works, "The Sands of Time" (6). Here an old man, who appears to be a first-rate model, holds an hour glass—really an egg-boiler—the sands of which are all but run out. The head is most picturesque. Mr. Appleby's only work is called "Nature's Temple" (7). It is a woodland scene, with a profusion of ferns. The effect has been rather lost in the enlarging, the gleam of sunshine looking more like a patch of white wild flowers than the streak of sunlit fern intended.

BERNARD MOORE, F. NEWINGTON, AND R. POLAK.

"An Old Market House" (8) is interesting topographically, and, in a way, pictorially also, for its arches, through which are peeps of the distant town, recall in the matter of design those ruined architectural features and the vistas they displayed, so often used as backgrounds to madonnas and saints by the old masters. Mr. Moore's other work is "Back from the Fishing" (249), a capital photograph of a boat at sea.

Mr. Newington has managed to get an altogether wrong effect in a very flat print called "At Sundown" (9).

Mr. Polak's "Doctor Faustus" (10) reminds one of Miss Watson-Schütze's "Student" at the Salon. Though smaller in scale and keener in tones than that work, and not nearly so well designed, it is, however, a nice piece of still-life with its skull and books, amongst which the old philosopher in his German cap and robes supports well the title-rôle.



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ARTHUR AND FRANK READ AND M. ARBUTHNOT.

"Honeysuckle" (11) is rather a sleepy print. That is to say, the tones are, or should be, in strong contrast, but they are dulled down to tameness, which is not the same thing as being artistically soft in effect. We much prefer the very lovely little piece called "River Mists" (311), which these joint workers have carried out with such skill and feeling.

Mr. Arbuthnot has the best intentions. His works are large and selected with taste, but his sense of tone values lags behind. "Wild Flowers" (12), pretty as is its subject, is spoilt by flatness of effect. In "An angry sky and lonely shore" (245) his light on the beach is far and away too bright for natural and pictorial effect.

J. H. CANEVALI AND REV. H. R. CAMPION.

"Storm Breaking" (13), a dramatic little piece of good, truthful effect, shows that Mr. Canevali has studied the subject of tone values to some purpose, and in his "Solitude" (159) we find a perfect effect. The narrow stretches of seashore at low tide, the wreckage, and the sunny mist over all carry out perfectly the idea of the title.

The Rev. H. R. Campion sends here the self-same subject as that described as "An Open Door" by Mr. F. H. Evans at the Salon. It is not necessary, therefore, to say more than that the work here shows too much of a secondary light above, and that the door and soffit into which it shuts are not self-explanatory.

Another agreeable architectural piece, which has very evidently been inspired by the work of Mr. Evans, is called "Norman Work: Contrast" (348), in respect to which we feel bound to remark that the contrast is almost too sharp to be quite artistically pleasant.

MISS K. SMITH, HAROLD HOOD, AND C. H. GALE.

"A Little Girl in the Poppy Garden" (15) is pretty in subject and broad in treatment, but a fuller toned print would have improved the work. "L'Oiseau Captif" (274) is another Salon echo, but does not please us so much as Miss Smith's "Captive" there. Mr. Hood's shore piece, "Like the long waves on a sea beach Breaking in ripples" (16) is a praiseworthy attempt, but is just a little monotonously flat in some parts where delicate gradations might be expected. His other work is a street scene in winter, which he calls "32 Deg. F." (287).

A refined taste is displayed in Mr. Gale's "Study of a Head" (17), where the textures and lighting are beautifully given.

ALFRED SCHNEIDER.

The seven works that come from this talented worker are of the utmost importance in this exhibition, and the Royal Photographic Society is to be congratulated upon his arrival in their ranks. He is a clever manipulator of the gum process, and in figure or landscape seems to be equally original. "Alter Schlossgarten" (18) is a grand subject *à la* Henneberg, of a graveyard with cypresses. It is, perhaps, just a little lacking in middle tones. Next hangs "Portrait of Fraulein von H." (19), which is really a better work. The handsome profile of the lady is put to good account. A curious shade that is presumably quite accidental, but might be mistaken for a distant tree, is continued over a portion of the figure, and is not a little puzzling. "Waldainganz" (38), an impressive rendering of birchwood, and "Landschaft" (67) are two original and powerful landscapes, the latter particularly rich in quality and in good keeping. "Kunstmaler Sascha Schneider" (99) represents, perhaps, a relative of the photographer. Possessing an unusual amount of fine characterisation, it gives with unerring directness the look of analytical scrutiny and concentration that so often settles upon the countenance of a painter, particularly when some shortness of vision habitually contracts the brows. Another landscape, "Landschaftsbild" (110) is no less full of the proper qualities than are the others already mentioned. "Summer" (288) is a successful attempt to deal with the nude subject in open air. Three boys dance in a ring, whilst a fourth stands by a tree and pipes, or pretends to—Mr. Schneider seems only to have supplied a dead stick for this purpose. The lighting in this work is not quite conclusively made out, and the boys between them make two groups that are somewhat equal in their claims upon the eye.

K. L. BILBROUGH, ANDREW RICHMOND, M.B., AND WALTER SELFE.

There is a deal of feeling in the capital interior of "Ely Cathedral" (20) by Mr. Bilbrough. If the figures were not so large in proportion to the area of the picture there might be even more of the Millet feeling in Mr. Richmond's "Field Labourers" (20)—a little print in a very bright Indian red. The best of Mr. Selfe's three landscapes is, perhaps, "A Damp Day" (21). The truthful mists that hang over the brook give this work a more pictorial aspect than the over-elaborate, if pretty, woodland scenes called "Glade in the Forest" (271) and "The Woodman" (299), both of which are in need of breadth and simplification.

MISS ELLA TOMLINSON AND F. A. SWAINE.

"Little Bo-peep fell fast asleep,
And dreamt she heard them bleating."

Such are the lines chosen for the "Illustration for Book of Nursery Rhymes" (23), by Miss Ella Tomlinson, who, we must admit, has, by avoiding action, quite successfully turned photography to account in illustrating. A little girl, suitably dressed up, and nicely posed, plays her part very satisfactorily.

Mr. F. A. Swaine has two figure subjects, one of which is remarkably successful. The first, however, "A Difficult Piece for Grandpa" (24), is just a little posy, though full of nice tones. It represents an old man playing the fiddle from music held up by his grandchild. "Evensong" (240) is a deal better, and shows three old ladies in church, who seem to smell a rat in the person of the photographer if one may judge by the ill-suppressed amusement that so sacrilegiously creeps over their faces.

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THOS. BLETCHER AND WILLIAM GILL.

"The Boat Car" (25), a cart on the sands, has a curious dispensing of light. Brightness seems all around the cart, which, nevertheless, remains a dark mass devoid of detail.

Mr. Gill gives us three more of his pretty ladies, the first of whom is on her knees before "The Old Chest" (26). She is represented in what is not the real gloom of a badly lit room, but in a full light that has been much suppressed in the print. "The Old Picture Book" (53) is, on that score, much fresher in effect. The figure is charmingly dressed, and the picture is very taking. "Nora" (102) is likewise a most engaging picture of a handsome looking girl seated in what is known as a "grandfather's chair."

J. M. WHITEHEAD.

Mr. Whitehead is an exhibitor of whom we have learnt to expect much, and it is gratifying to see that this year again he does not disappoint us. Even in the matter of framing "In the Fir Woods" (29) displays excellent taste and the little picture has a particularly nice selection. As to his flower and still-life studies, it would be hard to find another photographer who can beat him in that field. His "Decorative Panel" (132) is exactly what it claims to be, giving as it does a well-considered arrangement of gorgeous and lovely tulips, the lighting and modelling of which are a lesson to all other flower photographers. With this we may speak of his "Honesty and Apples" (327), a still life group of good arrangement, upon which we have already commented. "In the sad time o' the year" (134) wants a little more breadth, otherwise it is a first-rate landscape. In "The Last Stand" (149), those who have not the pleasure of his acquaintance discover Mr. Whitehead to be a humorist. On a bleak hillside a few faithful-until-death posts—all that remain of a whole barbed wire fence—have closed up to make a last stand before they are finally swooped down upon by the firewood seeker. No doubt, Mr. Whitehead helped them in the forming of their last square; but what of that? It is refreshing to find the really humorous and fresh idea when so much is maudlin in pictorial photography. We find his "December Fog" (203) a deal lighter by many degrees than many a bright June and summery scene here and at the Salon; and yet it seems not a whit too bright for what it purports to be.

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H. W. BENNETT AND W. M. COULTAS.

Three architectural scenes do not show that Mr. Bennett pushes his reputation on very fast. There is a nice effect and a good arrangement in "A Norman Chapel" (30), but the "Entrance to a Fifteenth Century Chapel" (233) is open to a charge of flatness, and the steps in front are not a little aggressive in their lines. A similar disregard for the claims of pictorial composition is evident in the last work, "In Norwich Cathedral" (277). Considering that Mr. Bennett specialises, it might be thought that he should give more time to selection, and be more prodigal of exposures even if he only exhibited one in twenty rather than put so much care and labour into the after processes of a few that are sometimes scarcely worth it.

Mr. Coultas's "Amiens" (31) is not so striking a work as others he has given us, and it is not above suspicions of "faking."

ELLIS KELSEY

has some extremely interesting work in this exhibition. He seems to be on the lookout for subjects that are curious rather than pictorial. Thus his "Snow Ripples" (32) is a wonderful thing, and well worth photographing, although, of course, it does not make a picture. Its light effect and its shadows are very remarkable. "Harvesting on Beachy Head" (196) is, however, a fine subject; but Mr. Kelsey has discounted it by adopting a most unpleasant lemon tint for the print. The values have either been tampered with, or have never been properly caught, in the picture which has the engrossing episode of a vessel "Cast Ashore in the Storm" (214), over which huge breakers are dashing. In subject this is a first-rate work. But the best of all is "A Cloud of Steam" (280) puffed out by a railway engine, and illuminated by strong sunlight. It is so fine and so fitting a theme for photography that the wonder is that it has not more often appealed to the wandering camera.

JOS. E. COOPER AND HARRY TOLLEY.

A fairly successful "Sunset" (34) comes from Mr. Cooper. It appears to be mounted slightly on one side, otherwise it is not particularly striking. Mr. Tolley has given us a most unaccountable white streak, which too obviously has no business to be there, in his "Evening on Crummock Water" (35). His "Misty Arran" (210) is a very good topographical piece, with good light.

FRANK PINDER, P. R. SALMON, AND FRED. W. HICKS.

A ship in a mist has a very good and convincing effect, the colour of the print being happily chosen. It is called "Amid the encircling gloom" (36). "Black George" (124) is a darky lighting his pipe, and, as usual, when coloured gentlemen submit themselves as models, the head is full of character. "The Reckling" (169) is made up of a sow, some little pigs, and a little boy; but the title is a provincialism presumably, and for us the obscurity of its meaning damages the understanding of the picture.

We very much admire the modelling of the shoulders and breast of Mr. Salmon's "Study" (37), but think it a pity that there should be so "drawn" an expression in the mouth. Round Mr. Hick's "Breton Fisher Girl" (40) there is a nice realisation of atmosphere.

E. G. BOON.

Mr. Boon sends his usual welcome assortment from Italy. "An Avenue" (41) gives with much insistence the darkness that lurks between the rows of trees and the brightness on either outward side. It is a capital effect, though a curious subject. A little decorative slip of a picture, with the familiar reflections, is taken "At a Venice Quayside" (90). "In the Campo Chiesa Woods" (170) is a very rich little work, wherein some sheep catch the light with good effect. Quite in the manner of a London slum, we see that shirts and other washable garments hang out-o'-window to dry in such a Venetian slum as "A Canal of the People" (225). The large umbrella is a very pictorial adjunct to "In a Southern Market" (355), where the figures at the stall are not entirely free from self-consciousness.

HAROLD MOORE

has a goodly number of fine things, mostly river subjects. "Thames Tugs" (42), but for a lightening of tone at the lefthand edge, is a first-rate work, and the same may be said of the similar subject called "Neptune's Humble Subjects" (321). These with the capital "Down Thames" (350) have all a just and artistic appreciation of the values and light in each. "The Herring Boat" (251) has also a good effect and as much truth. "Chiddingstone Village" (260) is perhaps a little hard and not so effective as "An Old Gateway, Glastonbury" (365), through which the sunlight comes in fine contrast to the grey but lucid shadowed portions.

T. F. BROGDEN AND F. W. JACKSON.

A nice figure in a picturesque cap, who stands at the edge of a stream wherein she casts most becoming reflections, makes up the subject of "Day Dreams" (43). Mr. Brogden's other works are "The Quay" (236) and "The Fish Market" (258). The first is much the better, the figures being so well caught. The other suffers from a lamentable flatness.

The better of Mr. Jackson's works is "A Summer Shower, St. Martin-in-the-Fields" *(sic)*. The wet tiles of the near pavement give quite the appearance of a river, which is perhaps a case of *too* convincing an effect. Some firs on a hillside, called "An Outpost" (211), Mr. Jackson's other picture, is a little gloomy.

F. J. MORTIMER.

In this section, Mr. Mortimer shows four of his clever wave studies, two of which are duplicated at the Salon, to wit, "In the Height of the Storm" (45) and "In Fine Frenzy" (244). These were treated of last week. "A Storm at Sea" (74), though it is very dark, perhaps not unnaturally so, is a work full of great dramatic force, showing in the gloomy distance a ship at the mercy of the elements. But Mr. Mortimer rises to his highest level in "A Wind Sea" (107), which in the matter of real daylight is not only the truest and most striking thing in this gallery, but the best and most convincing sea scene of anything we remember in recent years at any exhibition. One could live with this work for years and never tire of it—a rare quality in photographs of pictorial intent.

THOS. CARTER AND J. B. JOHNSTON.

Mr. Carter's work is unequal. There is more woods than June in "June Morning in the Woods" (46), whereas in "Cleveland Pastures" (62) he has achieved a splendid landscape, with lovely light over the distance, so that the work ranks among the very best in the gallery. Neither of Mr. Johnston's works seems sincere. The better—"Homewards" (47)—a small flock of sheep on a road, has an effect that appears to be very obviously forced.

W. A. J. HENSLER.

Mr. Hensler is one of the fortunate medallists this year. An honour not undeserved by his nice open, light and airy "Towing the Barge" (75). "Coming into Port"

(48) has also a good effect, and a happily caught action of the man on the vessel. Another sailing scene, called "On the Maas" (129), is very good, except for the rock that so unnecessarily cuts off the left bottom corner of the view. A capital enlargement of a snapshot in St. Paul's Churchyard Gardens, entitled "Haven of Rest in a Great City" (128), displays an excellent effect of daylight, and a spontaneous grouping of figures. The boy who looks up from his paper to listen to the women's conversation is first rate. Mr. Hensler's landscape, "At the Parting of the Ways" (272), lacks some of the lighting merits of the last.

Miss S. A. Acland

is much to the front in her interesting portrait of "The late Marquis of Salisbury, K.G., in his robes as Chancellor of the University of Oxford" (49).

P. W. Crane and Harry Goode.

Very good selection and lighting are evidenced in Mr. Crane's "Crypt de l'Aquilon, Mont St. Michel, Normandy" (51), for which he asks the very particular sum of 16s. 6d., whilst for 14s. 6d. he will part with his "Hailstorm passing over Bonaduz" (342), which is a good thing nevertheless. Mr. Goode's "Hill Path" (52) is sadly gloomy, but in other respects it is a notable and dignified work.

Hugh Colebrook

This gentleman exhibits half-a-dozen pictures all of which show considerable strength. He is a little prone to vagaries of shape, as witness the upright strip called "A Calm Morning" (54), which, however, is picturesque and nice in every way. "After Sunset in the Woods" (178) is dark to blackness, but in this case it does not much belie the truth of such a scene. "Breydon Water" (182) is dreamy: the mill and reeds are valuable agents in this capital lake scene. Another long picture, horizontal this time, shows a mass of smacks at a quay—a clever enlargement, called "The Fish Wharf" (207). "Night" (286) looks to be a good thing; but we question the brightness of the streaks in the sky. Some men hauling up a boat is the subject of "Low Tide" (344), which has good action and plenty of light.

A. G. Paterson and Miss E. M. Barrows.

"A Corner in the Cathedral Close, Winchester" (55), is nicest in its lefthand side. "The Old Flute Player" (56) of Miss Barrows has good character, but the old man has got into a frightfully badly-lit corner to practise his piping. The same lady's "Reflections" (208) are only those of a silhouetted vessel in a sea and sky of all sorts of impossible colours. Much more sane is her "Summer Evening" (209). "The Village Smithy" (265) only wants rather better values to be a really good thing. The subject is very promising.

G. Holdsworth and G. Lamley.

"Marion" (57), whom we see at a back view, has been very unfairly suppressed by Mr. Holdsworth. He might have allowed her to "light up well," as she no doubt could with a better chance. The roadway by Mr. Lamley is very good in effect, if a little commonplace in subject. He calls it "A Misty Winter Day" (58).

C. F. Grindrod

has three strong works, the first of which is a "Portrait of Harry Arbuthnot Acworth, C.I.E." (59), whose powerful head has been treated at life size and seems to lose no character. "A Village Cobbler" (70) is likewise a capital piece of characterisation, whilst "Hauling Timber" (126) is one of those landscape series of the woodman's life variety, and is splendid in its rich tones.

J. A. Heir and B. C. Wickison.

A ploughing scene called "The Tiller" (60) has a good effect, but the stormcloud is much too heavy for correct tonality. Mr. Wickison is not showing to the best advantage this year. His "Glow of Evening" (61) has unsatisfactory foreground lines. "The Brook" (72) is too strong and forcible a print, though it is a nice little piece. "Thistledown" (81), at any rate, has a charming subject, and so also has "Away to the Sea," though here we think the sky too heavy for the rest.

William A. Clark

wins a medal for "The Eastern Crypt, Winchester" (215), which may be technically a triumph; but we are afraid that we should have overlooked it had we been entrusted with the placing of these honours. Good, but over dark, is his landscape:

> "Summer, as rich in shadows as in suns,
> Spreads her thick foliage, thicker every day" (68).

An architectural subject no less deserving of a medal than the other is "Where Rufus Sleeps (105), an ecclesiastical interior bathed in a poetical gloom, which has even been allowed to affect the streaks of sunshine that light on the walls. Another architectural work that offers little in the way of subject, but has been honestly and cleverly done, is "Evening, Southwell," where the window at the end looks as it would look to the human eye, and that is praise where pictorial photographs are concerned.

R. S. Webster and Mrs. G. A. Barton.

"Chas. Douglas, Esq., M.P." (69), is a quite proper photograph of a quite proper gentleman; and a little chubby girl appears as "A Little Sunbeam" (153), a part she plays to perfection. Mrs. Barton is a pattern of industry, and so it would appear are her poor little models, whom she evidently keeps well employed. Several of her seven works exhibited here are duplicated at the Salon, and upon those it will therefore be unnecessary for us to dwell. One of her finest things at this gallery is "In Smiling Infancy" (71), a mother and child, of grand design and pretty sentiment, but not improved by the over fanciful shape of the mount, which was no doubt intended to bear out the stained-glass character of the design. "A Breton Girl" (175) is a nice enlargement; but "A Country Girl" (183) is unwarrantably dark. Similarly in "Sunny Italy" (222)—our little friend again in a Tyrolese hat; there is no sun, only the shadows belonging to one. Mrs. Barton is no doubt one of the most talented of our present workers, and it is to be hoped that her prints will not stereotype into endless variations of a few themes derived from fewer models.

E. J. T. Walford, J. C. Walker, and W. R. Lathbury.

Mr. Walford's long foreground in "The River's Source" (76) is not commendable, but he has managed to make a fine picture with a little brook and a willow. "Night's Prelude" (142) is as charming and suggestive as its title—the prettiest in the catalogue. It has delightful tones of perfect truth to Nature. Mr. Walker's nice landscape called "A Wasdale Homestead' (77) is just a thought prosy in design. Transparent shades, but rather startling contrasts are the characteristics of Mr. Lathbury's "Crypt Stairway" (79).

P. Padwick and W. T. Greatbatch.

Excellent in design, lighting, and values is Mr. Padwick's hoeing scene, "Moil and Toil, Toil and Sweat" (80), a most uncomfortable title. Of Mr. Greatbatch's three works we prefer "Winter" (89), which is a fine subject and delightfully true. "The High Town, Bridgnorth" (82), is somewhat lacking in effect, and "A Morning in February" (228) is sad rather than keen in feeling, and might pass much better as an afternoon in November.

Jas. Patrick, Col. W. Hooper, and H. U. Knight.

The sun is too high in the heavens for the darkness of Mr. Patrick's "End of the Day' (83). His other work called "The Apple of his Eye' (127) is apparently one of those things that come half way between an arranged

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group and a snap shot upon unconscious models, and for such a thing it is clever. Col. Hooper has found a happy title in "What do ye here all the day idle?" (85) for his group of Orientals lounging against a wall. Perhaps "April Showers" (86) is the better of Mr. Knight's tiny things that are in effect light spots vignetted into a dark border. It represents an old woman under an umbrella, and is quaint, but spoilt by its forced effect.

H. A. GAME, CHAS. E. COLLINGS, AND JOHN LENNIE.

A charming picture of a lady, prettily posed in a chair and reading, is "Portrait of my Wife" (87). It is in a pleasant red tint. "The Smithy" (88), by Mr. Collings, is an attempt, more or less successful, to adapt the colour of a print to the local colour of a scene. Here the glowing fire and the light on a capital figure may be allowed to pass muster, but the experiment is always a risky one. Very nice and silvery in effect is Mr. Lennie's view of "Linlithgow Loch" (91).

JOHN GUNSTON, C. F. GARE, AND C. J. TREVARTHEN.

As a topographical piece we can commend Mr. Gunston's view "In the Gorges du Trient" (92). There is, perhaps, more interest in the two abbés who are mountaineering "In Slippery Places" (254). Mr. Gare's "Ruined Portal" (93) has an archæological interest, but stops short at that. A view of beautiful values and nice subject called "Autumn Mist" (94) comes from Mr. Trevarthen.

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L. LONGFIELD AND E. W. BURCH.

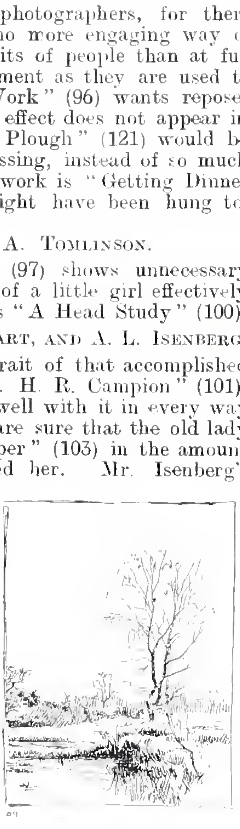
A most successful lamplight study which is, as a portrait, most charming into the bargain, is Mr. Longfield's "Home Portrait" (95). This class of work should receive much more the attention of photographers, for there is certainly no more engaging way of taking portraits of people than at full length and in their own environment as they are used to be seen. Mr. Burch's "Off to Work" (96) wants repose. There is dawn in the sky, but its effect does not appear in the landscape. "Home from the Plough" (121) would be better for more largeness and massing, instead of so much filigree in the trees. His third work is "Getting Dinner Ready" (199), and the three might have been hung together as a series.

E. HOWARD AND MISS A. TOMLINSON.

Mr. Howard's "Sunny Lane" (97) shows unnecessary diffusion of focus. The nice face of a little girl effectively lit comes from Miss Tomlinson as "A Head Study" (100).

CHAS. E. GOODRICH, W. A. STEWART, AND A. L. ISENBERG.

It is interesting to see the portrait of that accomplished architectural photographer, "Rev. H. R. Campion" (101), by Mr. Goodrich, who has done well with it in every way—pose, lighting, and tones. We are sure that the old lady cannot see to read "The Newspaper" (103) in the amount of light Mr. Stewart has allowed her. Mr. Isenberg's picture, "The City's Awakening" (106), is a big enlargement of scavengers, and will appeal to town birds.



C. P. WILLIAMS, R. FISHER, AND WM. CLAYDEN.

A charming little gum print, though rather empty of middle tones, is called "The Mud Creek" (108), and there is a similar lack of complete tones in Mr. Fisher's "Edge of the Common" (109). Mr. Clayden's quaint snap shot of old labourers "Returning at Eve" (112) has caught a nice effect of evening sun.

J. KEARNEY, JUN., AND MISS AGNES B. WARBURG.

The two works here by Mr. Kearney are both good, but particularly charming is, we think, his little circular picture called "Shade" (114)—the bole of a great tree. "Off the Welsh Coast" (366) is a bright print, with a fine sky and sea. Miss Warburg reveals to us how to do the trick in "The Gum-splodger" (115) (happy phrase!)—a gentleman, perhaps Mr. Warburg himself, squirting on a gum bichromate print.

T. LONGWORTH COOPER, ARTHUR MARSHALL, AND H. BOND.

Mr. Cooper's "Abbey Gate, Chester" (116), has little more than a merely architectural interest. "The Locket" (231) is good, and on the whole perhaps we like it best, though the pose of the young lady is rather stiff in its contemplative air. "Young Holland" (309) is a Dutch boy, over-enlarged, and almost entirely in silhouette. One of the most surprising compositions here is, to our mind, "From Darkness unto Dawn" (117). However was it done? It appears to be the interior of a genuine hospital ward, where nurses watch the expiring moments of an old woman. It is a remarkable work, and most successfully carried out. "In Delemere Forest" (120) has a nice selection, and a poetic triplet attached to the title, in spite of which, however, the work itself is a trifle prosaic. It promises well, and Mr. Bond might well try another negative upon it.

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J. C. S. MUMMERY AND D. MURRAY.

"The Mill at Evening" (122), unfortunately the only work of Mr. Mummery's here, is a gum print of fine effect and imposing design. It is deservedly thought to be one of the things of the year. Mr. David Murray's portrait of "Geo. Phœnix, Esq." (125), can, for the sum of one guinea, be anyone's property who does not object to the high light on the forehead. We feel more interest in "Cannock Chase" (202), which is full of beautiful feeling, and of fine broad style.

J. PHILLIPS AND PERCY LEWIS.

"The Shadows of Departing Day" (130) is an effect landscape, but very photograph-like in its selection of subject and its management of tone. It seems that Mr. Percy Lewis must have a medal at all costs. Four years running he has been honoured in that way, and we suppose he is right for it now as long as the medal giving lasts. For ourselves, much as we admire his work, we think that it is so similar year by year, and so limited in its range, that it has had recognition enough. Though should Mr. Lewis one day show us some good effect of light or some freshness of design better than others in the show, we should be the first to vote for its medalling. We do not think that "An Italian Fruit Stall" (131) is progressive, or eminently artistic, or remarkably distinguished in execution; but it has won a medal, and there's an end of the matter. In "On the Quay" (138) it appears to us that the clouds are not above suspicion.

J. H. GASH AND R. FORBES.

Mr. Gash sends an interesting workshop interior with three figures boldly given called "The Foreman" (133). An old lady standing at a sunny doorway with a basin in her hand is Mr. Forbes's contribution, and a valuable one. He names it "Waiting" (136).

MISS CONSTANCE H. ELLIS.

"Extenuating Circumstances" (139) is a repetition of Miss Ellis's picture of the same name at the Salon, except that it is turned the other way round, and is a little harsher than that version. "A Cross Examination" (190) shows an old woman mending fishing nets and talking to a boy who is seated upon the ground. In many ways it is not so good as some of her other works. We may add that the tone values of "Adjusting the Load" (336) are also a little below this lady's usual achievements; but the subject is one of the best.

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WM. RAWLINGS AND J. E. SYKES.

A most delightful subject, "Voorstraathaven, Dordrecht" (140), has been allowed by Mr. Rawlings to go flat and dull. The best of his works here is "Snowstorm on Dartmoor" (315), where the tone is splendid.

It shows a few cattle hurrying away over the moor. A lovely landscape with silver birches and a nice composition comes from Mr. Sykes, under the name of "The Pathway" (141), who also sends a first-rate enlargement of a particularly happy snap shot. The scene is a Continental street with many figures, the chief of whom are an old woman accosting a younger one. The expression of the latter is delightfully funny.

JOHN H. GEAR AND J. C. BATKIN.

The former gentleman has received a medal for his "Fenland" (144) in spite of the fact that the sun seems to have so little to do with the landscape. We have seen Mr. Gear do much better than this. In "Rigoleur" (173) a clerical gentleman holds his sides as he laughs, though it does not seem that the physical action is much more than a facial affair. Mr. Gear should put this picture to good use. It is just the thing for commercial purposes. Mr. Batkin has a real sunset gleam in his "Hillside" (146), which is a very fine landscape with a good outdoor impression.

F. E. HUSON, C. F. EMERY, AND G. H. FAUX.

A capital sky with the sun in a mist over a pool is the subject of Mr. Huson's deserving landscape "A Passing Gleam" (147). Mr. Emery's beautifully posed little nude, called "Sleep" (150), is also deserving of recognition. In "Morning Mists" (152), Mr. Faux reminds us of a recent success of Mr. Greatbatch, upon whose success he follows very closely.

ROB. THOMSON, H. W. DICK, AND J. C. WARBURG.

Since Mr. Thomson can do so well as he has done in his "Highland Roadway" (156), he should endeavour to get a more admirable selection for his skill. Of two labour pictures by Mr. Dick, "Sunshine and Labour" (157) and "Repairs" (192), the latter is much to be preferred, because the cobbler is actually at work. His grip of the boot and the set muscles of his face are really convincing. Mr. J. C. Warburg sends a very good gum print of "The House on the Marsh" (158), the title of which, at any rate, is familiar.

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J. F. HADEN AND L. E. C. DAPPLES.

A very yellow print, but a nice subject and light effect, is due to Mr. Haden in "Autumn Eve" (161). Mr. Dapples, however, has contrived to get one of the most characteristic and impressive subjects in the gallery. It is called "In the Great Cemetery at Skutari" (162). Gigantic cypresses grow as closely as the tombstones are set, and the sombreness of the scene is relieved by one streak of sunlight and a bright look out beyond. "Sierra" (275) has also a solemn effect with its broad shadows and wayside crucifix.

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MRS. HELEN WOOTTON AND L. A. EDMONDS.

"The Little Mother" (164) is a little girl engaged in sewing. It makes a pretty little picture. The "Daffodils" (165), a decorative panel, and "Portraits of a Girl" (266) are both remarkably pretty works by Mr. Edmonds.

W. R. BLAND, DR. T. G. CRUMP, A. A. BELLINGHAM, AND C. H. SMITH.

We are sorry to see only one of Mr. Bland's romantic mountain passes, but "The Downfall," Peak of Derbyshire (172), does him much credit. Dr. T. G. Crump exhibits some temerity in attacking so oft-repeated a favourite as "North Aisle, Ely" (174); but he has come out of the lists with no small degree of triumph, although we cannot say that we have never seen the thing better done. Mr. Bellingham's "Spring Pastoral" (176) is a charming little work with sheep and young lambs. We think it better than his two architectural works here. "In the Brontë District" (179) is romantically cheerless enough to recall "Wuthering Heights." Mr. Smith has done remarkably well with a first rate subject.

ALF. J. LOUGHTON AND G. T. HARRIS.

"Staithes" (181) is a good little view by Mr. Loughton of a place very popular with artists and photographers. The place is represented here in many aspects. Mr. Harris has a "Near Staithes" (267), which, however, is not so good as his first work, No. 186, poetically described in the lines:

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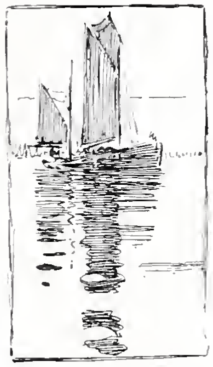
> "Now thickening twilight presses down
> Upon the harbour and the town."

The tone of this is very pleasing, and it is one of the good things here.

A. E. KING, MISS E. L. TURNER, AND G. L'EPINE SMITH.

Some fishing smacks "Becalmed" (189) is a work particularly nice in many ways, although the reflection of the chief one is a little aggressive. There is little or no sunlight in Miss Turner's "Sunlight after Rain," but the surging water of the mere is fine. This subject is a better one for lovers of the country than for lovers of pictures. In Mr. Smith's "Summer Landscape" (200) the subject is by no means the strong part of the work, but there is a good attempt at light.



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GEO. H. RITTNER AND J. C. STRAUSS.

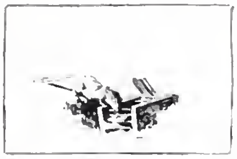
A very powerful portrait enlargement of "An Arab" (262) comes from Mr. Rittner, who has secured a fine lighting for his subject, though the white background reduces the figure to an evenness that is almost regrettable. Three of Mr. Strauss's clever portraits are deserving of special notice. "Portrait—Mr. G." (205) is clear and bright, and in this respect differs from some of the others, which are distinctly too dark. "Portrait—Miss W." (237) is a little spoiled by the high light on the nose of the very nice face. "Mrs. N." (338) is open to the same objection, although it is full of beautiful quality.

CHAS. F. INSTON AND EDGAR R. BULL.

Mr. Inston's three works are diversified in subject. "Homewards" (212), which is a little hard, depicts some sheep in a field. "Abandoned" (227) has a first rate foreground of sandy shore and appears to be fairly true in its tones. Perhaps "A Symphony in Grey" (289) is the best—it is so full of repose and quiet. Its subject is a lake with streaks of land across the distance. There are too many light passages in Mr. Bull's view "In York Minster" (217).

H. E. MURCHISON AND HY. E. STADDON.

Mr. Murchison has two very delightful landscapes. One he names by the well-known line "Tongues in trees, books in the running brooks" (218), and the other "Near Dieppe" (301). Both of these are first rate in every way. We are pleased to see that the example set by Mr. Douglas English has already been followed by Mr. Staddon, who shows us a most pathetic scene of a rat who is coming to console his comrades in a trap. The picture called "The Condemned Cell" (219) is heartily to be commended.



N. E. SMIRNOFF AND MISS M. E. BRUCE.

Another indoor portrait, and a very pretty one, is of "Miss Gwendoline North" (220). It would be better still if the window were less hard. Miss Bruce sends a capital view of a horse and four-wheeler cab drawn up to a drinking trough, under the title "Foggy London" (221).

E. T. HOLDING AND S. J. BECKETT.

Mr. Holding has placed the pretty face of "Peggy" (229) in shade against a light background. It makes a most pleasing work of beautiful tones. Two of his works have already been noticed at the Salon. An excellent model in a nondescript costume and taking an unexplained pose is the subject of the "Study" (360), a work which has been a fine opportunity for Mr. Holding to test his powers in this class of subject. It has so much fine quality that we hope he will do more in the same manner. Mr. Beckett's "Murano, Venice" (230), is better and less remarkable than "The Novice"—four photographs illustrating a storyette. Of these the sentiment is no doubt unexceptional, but the figures are not histrionically forcible, and lay themselves open to not a little ridicule. We should never encourage this kind of story telling, however well it was done.

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J. Pickering and James Shaw.

"The Quayside, Scarborough" (224), is similar in subject to Mr. Brogden's "The Quay." It is an excellent snapshot, and has a good light effect. Mr. Shaw's "Street in Chioggia" (226) merits the same praise, but it would be almost too full of interest if the man in the foreground did not save the situation by the brilliant note he makes. A party of women washing clothes at a well attracted Mr. Shaw, no doubt as much as the picturesque "Valle di Cadore" (270), wherein they washed. He has been a little hard in his handling of this unusually fine subject.

Fred Dean and E. M. Treble.

A pictorial subject which has a most truthful effect of "After Rain" (213) is a picture by Mr. Dean that pleases us very much. Mr. Treble's best work is "Portrait of Miss Adrienne Augarde" (232). It is perhaps a little posey, but technically it is most praiseworthy.

H. S. W. Haweis & H. A. V. Coles.

These joint workers have sent four works, each one of which is remarkable and original. The first is the least satisfactory. It is called "Portrait of Miss M." (234), but though its broad shadows give a largeness of style, the ugliness of the bright spot over the sitter's head, which is without meaning, and those made by her eye and finger-nail, lead the work to the verge of the ludicrous. Much finer is the similarly treated "Portrait of Miss L." (259), which is of delightful quality, and in which the face and hands are of great beauty. "M. Maratka, Statuaire" (264), is a curiously shaped print for a portrait, but it possesses great character. A lady in "accordian pleating," who lies at full length upon a sofa, is soft and misty in effect. She herself, on account of her costume, supplies the title "The White Fan" (328).

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Thos. Wright, A. M. Apel, and A. L. Spiller.

A very pretty and Japanesy subject called "Reeds and Rushes" (238) and "The Sentinels" (330), a fine landscape with two small firs in the title-rôle, and a nice distance, are sent by Mr. Wright. From Mr. Apel we get "Evening on the Rother at Rye, Sussex" (239), a view with nice feeling and effect. Mr. Spiller's is a street scene, "Main Street, Pontarson, Brittany" (242), and this has a very beautiful light and bright sky, with perfect gradation. A woman works at a pump in the foreground.

Geo. H. Faux.

But for a darkening of the left side of the print, Mr. Faux's "With Wind and Tide" (243) would be a first-rate work.

John Moffat and Roland Smith.

"Robert Noble, Esq., R.S.A." (247), is a portrait of great character, and a splendid photograph. Mr. Rowland Smith's snapshot enlargement, "From the Marketplace" (248), is a very excellent and interesting one, the chief figure of which is an old woman on a suspension bridge, who carries baskets by means of a yoke.

Geo. B. Clifton and S. E. Wall.

"The Cod and Lobster, Staithes," shows that hostelry in danger of waves, which already dash over some part of the premises. Mr. Clifton was in luck to have found so nice a little bit. Mr. S. E. Wall's "Low Tide in an Essex Estuary" (255) is a nice composition, but rather lower in tone than we have been used to expect from him. He has done much better than this.

Chas. E. Wanless and A. D. Berry.

There is too much in the title "Twilight, Robin Hood's Bay" (263). If there ever was real twilight in the view, Mr. Wanless has let it slip, but the picture is effective in a high degree. "Shades of Evening" (269) is a safer title, because Evening may mean anything as far as light is concerned, and therefore the critic is disarmed. Mr. Berry's print is attractively soft, and his selection does him credit.

Gilbert Watson, Chas. J. Harrison, and Chas. Sweet.

A deal of truth has been caught by Mr. Watson in his lake scene, "The Afterglow" (279). There is no doubt as to the particular effect his title claims. Mr. Harrison's "Font, Tideswell" (281), is good, but rather hard. He works in a prettier vein with his arboreal study "In a Birchwood" (284). For prettiness, however, we expectantly turn to Mr. Sweet's "English Roses" (283), which are arranged around just such a lady as we should expect to find had been persuaded to sit. It is a pity that herself and her bower are done so brown.

S. D. Middleton and Fred Whitaker.

The effect of Mr. Middleton's red gum upon himself has been to make him look very ill in his "Self-Portrait" (293).

"The glorious hues of sunset skies,
How fast they fade away." 15s. (294).

Thus moralises Mr. Whitaker. We might remark how *entirely* they have done so by the time his print is on view. No wonder the price is low, under the circumstances.

J. P. Goodwin and J. B. Hopkins.

Mr. Goodwin shows us that he can seize a good opportunity, but he should have avoided the similarity in mass and strength of the trees "On the Derwent" (297), if not by selection, at least by excision. Another subject of the ingenuous and unsophisticated sort is "Springtime" (298), and bears out our opinion that the exhibitors here are content with a pretty subject for its own sake, and do not think it necessary to help it out with uncombed damsels or otherwise to allegorise it into something too deep for tears. Mr. Hopkins, at any rate, knows better.

Dudley Hoyt and C. E. Semon.

Mr. Hoyt once made a sensation with a capital portrait exhibited in the Pall Mall days. He has never done so well in the New Gallery, and yet it is a nice place enough. "Portrait—Mrs. T." (303) is of course very good, but it is still a falling away from a former level. As for Mr. Semon's "Day in April" (304), we should have given it unqualified praise had he called it "Evening in April." His "Profile Study in Shadow" (329) is artistic without doubt, only rather too obviously so. Two patches of light are disturbing in his highly romantic landscape called "An Evening" (341). It would not have been difficult to give one or other greater importance. In "Lassitude" (356) he has used the head and bust of a girl, draped with muslin, to such good account as to be rewarded with a medal, and for the pleasant breadth of style, and beautiful homogeneity of this circular print, the honour is well earned.

Miss Pansy Martin and Frank Eugene.

"Happy Japan" (305) is not a landscape, but a girl's face in strong tone and "wreathed" in smiles. It is more or less a costume piece, as the title secondarily suggests. Mr. Eugene's work is as usual important and valuable. "The Cup of Tea" (307) is without doubt one of the most masterly achievements in the room: it has such life, such an arresting of both physical and mental processes, just as one has seen it occur in callers who, whilst they prattle, are ever ready to capture a sweet crumb of gossip that may fall from another table.

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Mr. Eugene is one of the great masters to-day in the photographic world. All that he puts into prints is gold added to baser metal. His nude study "Dido" (331) is perhaps the finest work of the sort ever shown here, if we except the fact that her head has been roughly treated by her hands, and has "gone under" to such an extent that even the tears of Dido must have been obstructed in their flow. Modelling and tone could not be more searchingly and feelingly rendered. The portrait of "Sir Henry Irving" (332) has more of Mr. Eugene's old sin of gloominess. It is good enough; why is it so shrouded from the light of day? We much admire the background treatment of "Study for a Portrait" (326), although it is probably a painted affair. Softness and strength go hand-in-hand in this print.

Jas. Auld, Capt. E. H. Haig, and Fred Radford.

Mr. Auld's two portraits differ in excellence. We shall only mention the better one—"Portrait of a Lady" (308)—which is really beautiful in its spontaneity and freshness of arrangement and treatment. The lady has a most bewitching joyfulness in her smiling face that seems to mean "Here I am, you see; I couldn't stop away from you for worlds." An admirable snap-shot, in spite of a poorness of composition, appears in a sort of double frame invented by Capt. Haig, R.E., and is called "Landing a Catch" (310). Mr. Radford's best appears in his "Portrait" (313), and his landscape "A Woodland Scene" (352). The former is a beauty of the Red Indian species, and, being such, would no doubt smile if hereditary traditions were not against such undignified facial laxity. Her suppressed emotions are therefore only manifested in a "smile that won't come off." Neither, we suppose, will the dreadful chin tattoo ornament, in view of which, as it is here presented, we have desires towards iodoform ointment and the antiseptic powder-puff. In the landscape the same photographer has succeeded in a sun effect on the ground—something more often attempted than it is something done, in these days.

G. Miller and Furley Lewis.

Mr. Miller comes next with his pretty lady sitting on a garden seat and confidingly supplying the title "The Garden that I love" (314). There is so much potentiality in a title that we are surprised it didn't strike the exhibitor to call this "The Gardener that I love," for there is the enviable person in the distance pretending to garden, and here is the lady in the front pretending not to be looking after him. It would have been such a gain on the dramatic side.

Mr. Furley Lewis's "Portrait of Oscar Arndt, Esq." (316), has been medalled, and we are glad of it. We happen to know the sitter, and whilst we will not say that a more characteristic pose might have been found, we cannot but agree as to the pictorial and technical excellence of the work.

H. G. Seaborne, H. Crossley, and J. M. Oliver.

Nice tone and good values are evident in Mr. Seaborne's view "At Tarbert" (317), and so there are also in the "Returning to the Farmstead" (318), exhibited by Mr. Crossley, but in this there is a most unwelcome patchiness of what is more like accidental discoloration than anything else. The lady in "Portrait Study' (319) by Mr. Oliver is quite as stiff as the 'cello she appears with. In other respects the work is nice enough, though we are inclined to think the "Portrait" (337) of the young lady in a flowered gown nicer still.

F. E. Marks, W. C. Fisher, and H. Walter Barnett.

"Calliope' (320) has been treated in quite a Salonistic manner by Mr. Marks, and so, indeed, has his "Pitch Melter" (343), who appears to have been rescued from drowning in the stuff he is melting. There is but little lost in the capital enlargement of Mr. Fisher's "Chums." We hope he will continue to make the most of his friends in this way. A capital effect of lamplight that comes from nowhere is visible in "A Winter's Night in Town" (346) by the same photographer.

Mr. Walter Barnett used to do excellent things in portraiture that were not quite so hard and black as his "Portrait" (323), in which respect "Right Hon. A. J. Balfour, P.C.,' is better, since by comparison he looks quite white and soft.

Miss C. Edmonds, Arthur Payne, and Capt. F. Young.

If we do not find next year that the damsels of Miss Edmonds have alighted upon the solid ground of Nature and in something like earthly surroundings, we shall think that the arrangement of an environment is beyond the photographer's powers. Engaging as is "Priscilla, the fairest Maiden in Plymouth" (324), we feel that a spinning wheel has not sufficient local characteristics to warrant the inclusion of a place name in the title. Miss Edmonds has been too successful in the past with the cut-out trick. Repetition only brings more forcibly to view the incompatibility of such elaborate realism as her figures display (charming enough in its proper place) and the treatment she adopts in her prints. Tiny, but exquisite, is Mr. Payne's "Blue Ghyll" (325). In Captain Young's "North Choir Aisle, Christchurch Priory" (333), there is abundance of nice work, but in the matter of selection it fails.

F. C. Baker and Rudolf Eickemeyer, Jun.

Mr. Baker only contributes "Winter" (335), but into it he has put a good measure of artistic feeling.

No less than six pictures by Mr. Eickemeyer hang together on one of the smallest walls of the room, and if there were six on every wall there would not be too many. Two are duplicates of pictures at the Salon, and must not detain us. "Her Tender Care" (345) is by far the finest *genre* piece that has been here lately, and represents a cottage interior where a mother rocks a quaint old cradle. The materials of this picture are beautifully set out, and its tones are harmonious, rich, and clear withal. More gloomy, but not less rich, is the splendid character study called "Portrait of Grandmother Trudeau" (354), which is like a Rembrandt, and, we are sure, would delight that Dutch divinity could he see it. "Hard Times" (339) is at once humorous and pathetic. A poor old horse, lean and incapable, stands with blinking eyelids in the snow, where he seems to have given up as a bad job all hopes of grazing. To make matters worse, he suffers, like the more celebrated steed of Munchausen, from having his hind-quarters trimmed off. Mr. Eickemeyer is here guilty of an unnecessary artistic brutality. The last picture by this talented worker, and the last in the show, is "An Industrious Habitant" (369). Needless to say, it is beautiful in quality.

W. Zimmermann, S. C. Fox, W. A. Beevers, and F. T. F. Toller.

The "Shell Gatherers" (358) displays a silly method of work. There is no tone in it, except indeed a lamentably low tone; and yet Mr. Zimmermann is evidently possessed of skill. Where is his judgment? The oily sea and the business-like air of the steamer in "An Ocean Tramp" (361) are quite praiseworthy, and are the making of a good picture. Mr. Beevers has imbued his "Sandhills" (364) with much romance, and Mr. Toller his "Breaker" (367) with a sense of power.

As far as our notes in the catalogue go, we have come to the end of our criticism. To do as much as we have been able involves a great stress upon writer and printer, and we shall be excused by those who find that their contributions have been, so to speak, crowded out of this review. To such no lack of importance will, of course, be inferred from the mere omission in our particular notes. In tho gallery something has to go whilst making notes, and in the end we find that either by accident, or insufficient scrutiny, we are without anything to say of what works out at about one-fifteenth of the pictures. This, in the ordinary journalistic review, would be a very unusually small proportion of omissions, but to us it is unusually high.

The exhibitors' names that do not appear above are as follows: Messrs. L. H. Keller, A. V. Kenah, Gordon Stollard, W. A. Hubbard, Andrew Paterson, S. H. Bentley, H. Bairston, A. R. Sargeant, F. E. Mills, C. J. Reade, H. Inkpen, C. Treasurer, A. W. Nicholson, M. and F. Scott, G. F. Course, W. T. E. Corney Wilson, G. Whitehouse, J. Kellett, H. Adderbrooke, J. Mackenzie, C. H. Smith, J. Beeby, F. Fowke, E. B. Wain, and Wm. Handley.

A Note upon the Invitation Pictorial Section.

OUR readers will have gathered from the correspondence that has passed in our columns with reference to the Loan Exhibition at the New Gallery, that the promoters of that interesting collection have been threatened with *fiasco*. It will be a pleasant surprise therefore to learn that the exhibition of invited pictorial works is, in point of both numbers and interest, an absolutely unqualified success.

For our own part, we were expecting to see great gaps in the array of representative workers; but, as it turns out, the head and fount of the original secession from the Alma Mater of Photography—the man, in fact, whose following to-day have endeavoured to withhold their prints—he, the late H. P. Robinson, is trebly represented! Taken in conjunction with the society's permanent collection, the invitation section is amply representative, Mr. Evans himself doing his part with Messrs. Hinton, Sutcliffe, Baker, and other seceders towards the perfection of the society's plan. Surely, all things work together for the good of the R.P.S.!

The South Room, indeed, is one of the most interesting. It displays a most delightful array of old friends and new acquaintances. Many, of which the original prints have not been seen since they were first exhibited, came back upon us with all their early power. And insomuch as an original is at all times superior to the best possible reproduction, just in that measure do some originals here fascinate us, although we are daily in contact with their copies.

The fur of Mr. Douglas English's "White Cat," for instance, how can any reproduction give that silkiness and lightness, that strokeableness? to coin a word in desperation. We are struck again with the lucky and out-of-the-way subject that came to Mr. John H. Gash, when he was able to snap shot those "Rivetters," so busy and so free from self-consciousness. Mr. Sinclair's "Dutch Peasant" is here with all her old brilliance. As for Mr. Crooke, will he ever excel those magnificent life-size heads, the irresistible Miss Stevening and the supreme Zuleika? As a landscape of both pictorial and natural beauties, the late H. P. Robinson's "Storm Clearing Off" has not often been surpassed by men since his time, and neither has Mr. H. Walter Barnett done anything finer than the grand and lively head of Prof. Turner.

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Coutances Cathedral.
By H. Bairston]

It is pleasant to see once more Mrs. Dumas's delightful "St. Martin's Summer," Mr. Gear's "Silvery Morn," Mr. Inston's truly great wave picture, "Whence and Whither," surely his triumph in this branch of work.

The opportunity found and taken by Mr. Johnston in his "Cornered" animal is rare enough to rank as valuable in exhibitions for years to come.

Mr. Rawlings sends his "Winter Snows." They are of that convincing kind that can give rise to the sensations of wet feet, and to the same kind of work belongs Mr. Burkinshaw's "Silenced Highway."

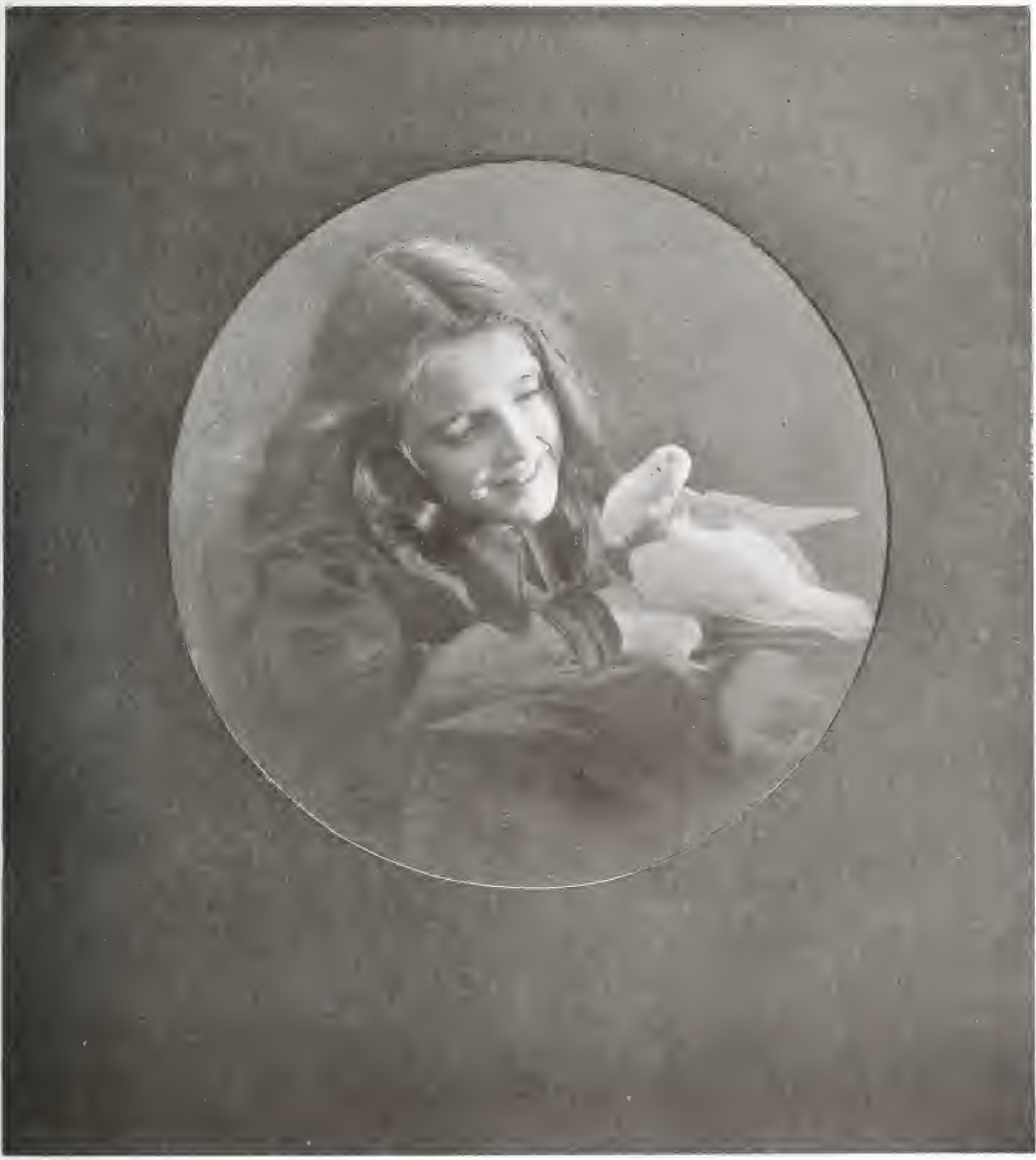
Those works that are of to-day keep their place here well enough, seeming neither behind nor in front of the older work, if we except amongst the latter the too, too pictorial "Dawn and Sunset," by H. P. Robinson, which has undoubtedly a far off look in view of the genre work as it is managed now.

FORTHCOMING EXHIBITIONS.

SOCIETY.	OPENS.	ENTRIES CLOSE.	SECRETARY.
Coatbridge P.S.	October 17	—	The Secretary, Ailsa Cottage, Coatbridge, N.B.
Kettering C.I.	October 21	October 19	E. Claypole, 112, Hawthorn Road, Kettering.
Isle of Wight P.S.	October 21	October 13	J. H. Burgess, 53, Pyle Street, Newport, Isle of Wight.
Belfast Y.M.C.A.	October 28	October 14	D. J. Hogg, 3, Trinity Street, Belfast.
Ealing P.S.	October 28	October 19	H. A. Ball, Town Hall, Ealing.
Plymouth Industrial	November 4	October 24	Chas. A. Rowe, 2, Walnut Villas, Cockington, Torquay.
Frome M.I.	November 5	October 24	Bernard J. Mitchell, 3, Willow Vale, Frome, Somerset.
Edinburgh Industrial	November 5	October 17	A. T. Huchinson, 7, North St. Andrew Street, Edinburgh.
Hackney P.S.	November 11	October 26	Walter Selfe, 70, Paragon Road, Hackney, N.E.
Braintree and B.C.C.	—	October 30	W. P. Dreaper, Coggeshall Road, Braintree.
Friary Bazaar	—	October 31	H. Sharp, 105, Muster's Road, West Bridgford, Nottingham.
Sheffield P.S.	November 17	November 3	J. W Charlesworth, 1, Joshua Road, Sheffield.
Bishop Auckland P.S.	November 17	November 8	John Welsh, Salisbury Place, Bishop Auckland.
Sunderland P.S.	November 18	November 2	W. E. Kieffer, 1, Stirling Street, Sunderland.
Southsea P.S.	November 18	—	F. J. Mortimer, Pembroke Road, Portsmouth.
Tunstall	November 18	November 7	C. J. Eardsley, High Street, Tunstall, Staffs.
Edinburgh P.S.	November 21	November 7	J. S. McCulloch, W.S., 3a, North David Street, Edinburgh.
Berne International	November 25	—	Prof. Deichselt, 19, Bühlstrasse, Berne.
Hove P.S.	December 2	November 23	A. R. Sargeant, 55, The Drive, Hove.
Glasgow E.A.P.S.	November 28	November 23	A Walker, 80, Garthland Drive, Dennistoun, Glasgow.
Southampton P.S.	December 11	December 2	S. G. Kimber, Oakdene, Highfields, Southampton.
Chicago S.A.P.	December 29	December 15	Society of Amateur Photographers, The Art Institute, Chicago.
South London P.S.	March 5	February 20	W. C. Marshall, 41, Glendon Road, Lee, S.E.
North West London P.S.	February 11	January 28	J. S. Fairfoull, 13, Addison Road, Walthamstow.

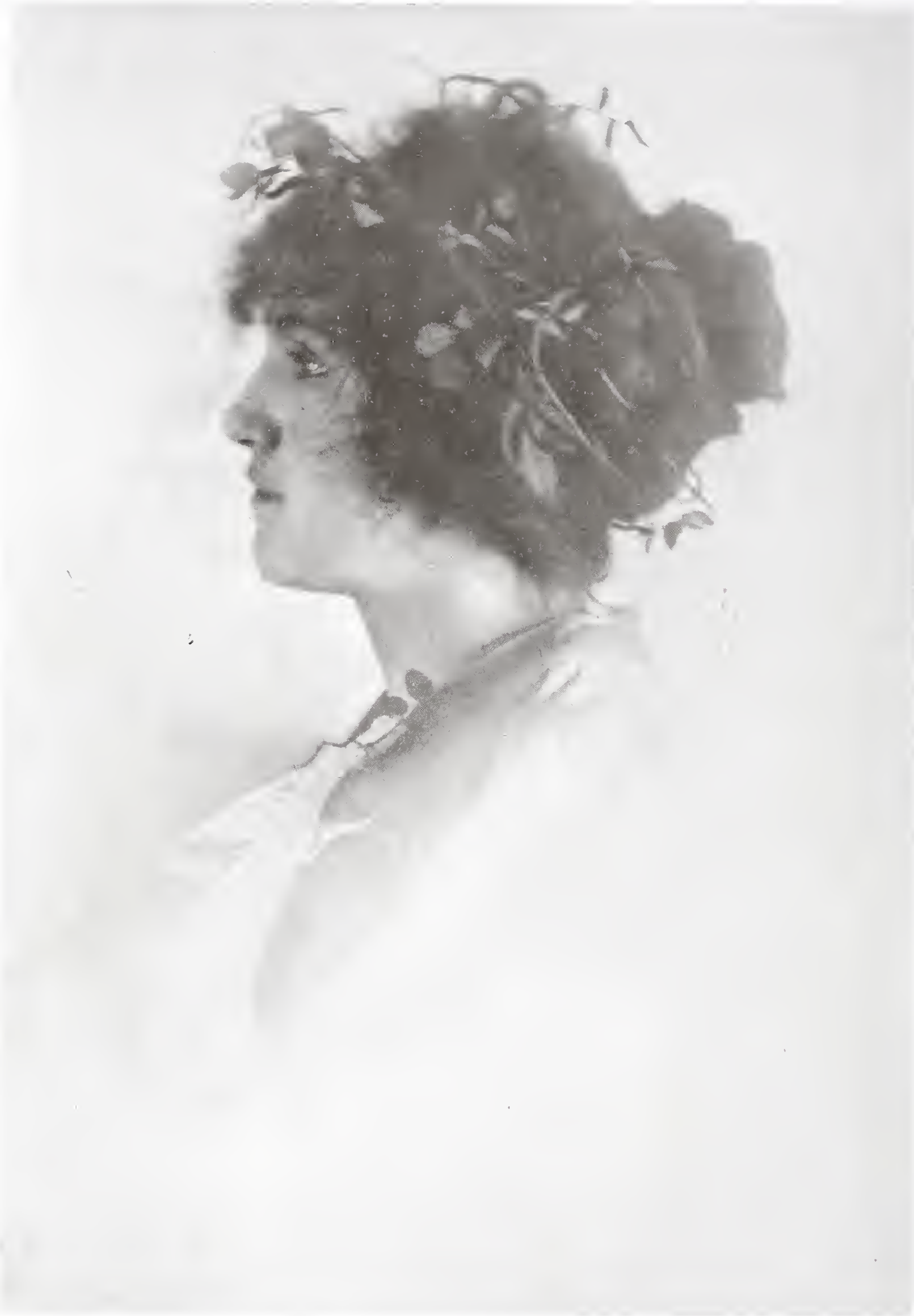
PICTURES FROM THE TWO EXHIBITIONS

THE ROYAL PHOTOGRAPHIC SOCIETY & THE SALON

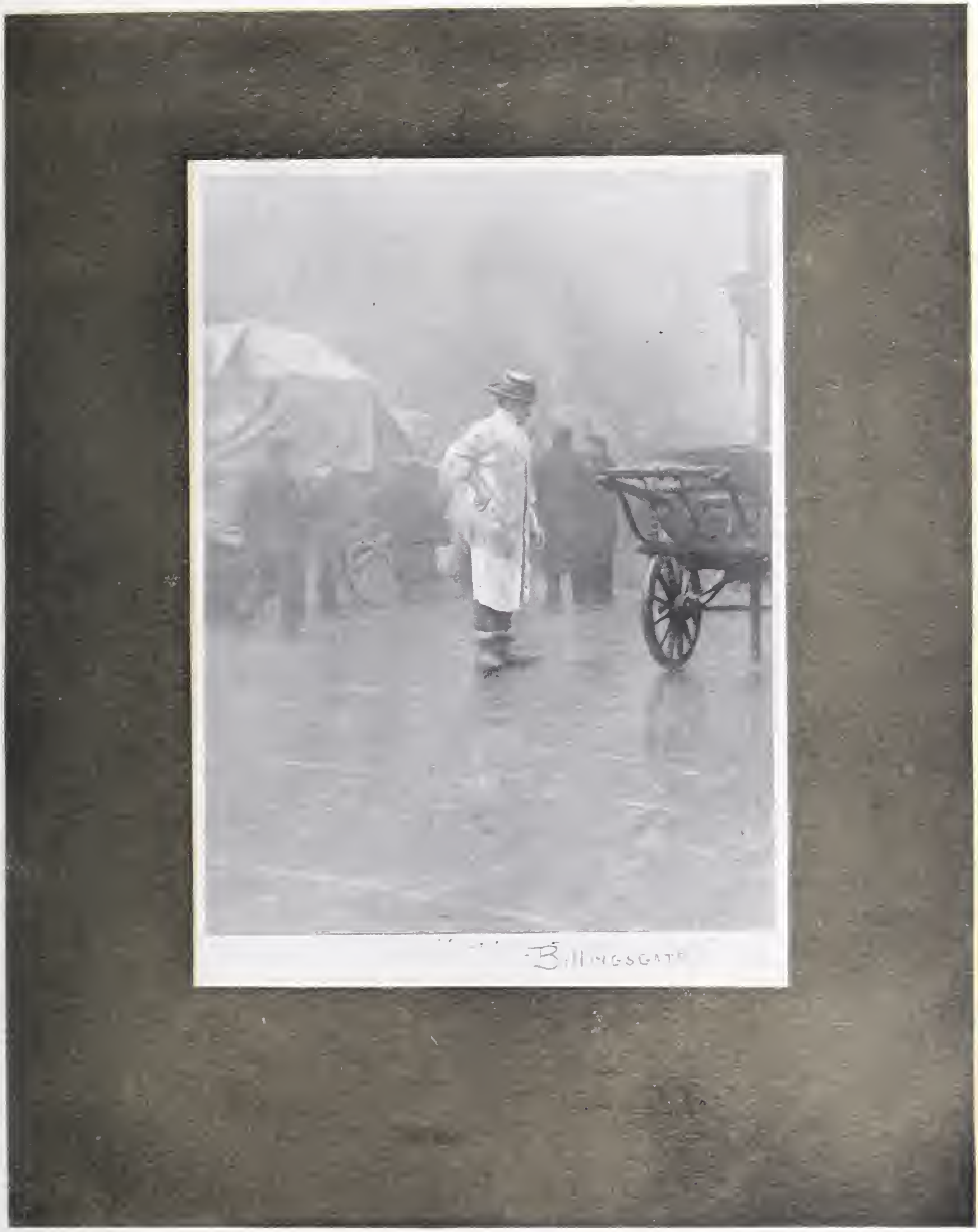


The Captive

By Miss Kate Smith



Briar Rose. By J. Cruwys Richards.



Billingsgate.

By F. F. Miles.

THE MILL AT EVENING.

BY J. C. S. MUMMERY.

EXTENUATING CIRCUMSTANCES. BY MISS CONSTANCE H. ELLIS.

The Distribution of the Image in Cristoid Film. By E. Senior.

SPECIAL TO "PHOTOGRAPHY."

THESE films, "like the Sandell plates," are prepared chiefly with the view of prevent-the evil effects due to halation and over-exposure, and consist of two layers of emulsion of different rapidities, but without any support or basis other than that furnished by the gelatine itself. Having seen most excellent results obtained on them under great diversity of conditions, natural curiosity, and the desire for information, impelled me to investigate the effect of light within the film itself, by preparing and microscopically examining thin sections.

Fig. 1 is a photomicrograph (greatly magnified) of a transverse section through the sky portion of a negative taken on one of these films, with a normal exposure in the camera, the deposit apparently offering complete opacity to transmitted light. The clear line of demarcation between the two emulsions is distinctly seen, the narrower of the two bands representing the particles of silver forming the image in the rapid one; and although the exposure was such that the action of light extended through both films, the greatest effect as shown by "the aggregation of particles" was produced in the rapid one.

In fig. 2 we have the effect produced by a very prolonged exposure in the camera—in this case, 660 times the normal. As will be seen, the difference in appearance is most marked. In this case the size of the particles is greatest near the outer surface of each film, although the largest are undoubtedly situate on that of the slower one.

The comparative isolation and smallness of the silver particles through the centre of the film is most probably due to partial reversal having taken place there, due to the quantity of bromine liberated by the prolonged exposure, or to "a substance set free by the combination of the halogen with gelatine," having destroyed to an extent the developable image. In this case the amount of silver salt capable of being reduced to the metallic state by the developer is less, therefore the state of aggregation of the particles smaller.

Then, again, there being two surfaces from which the bromine can escape, as compared with one in the case of a film supported upon glass, no doubt accounts for the reversal being less pronounced than might have been expected.

In the negative from which the section represented in fig. 2 was taken, there is no indication of the defects so common to over-exposure; and beyond an excess of density, which is removable by reduction, the image appears remarkably perfect.

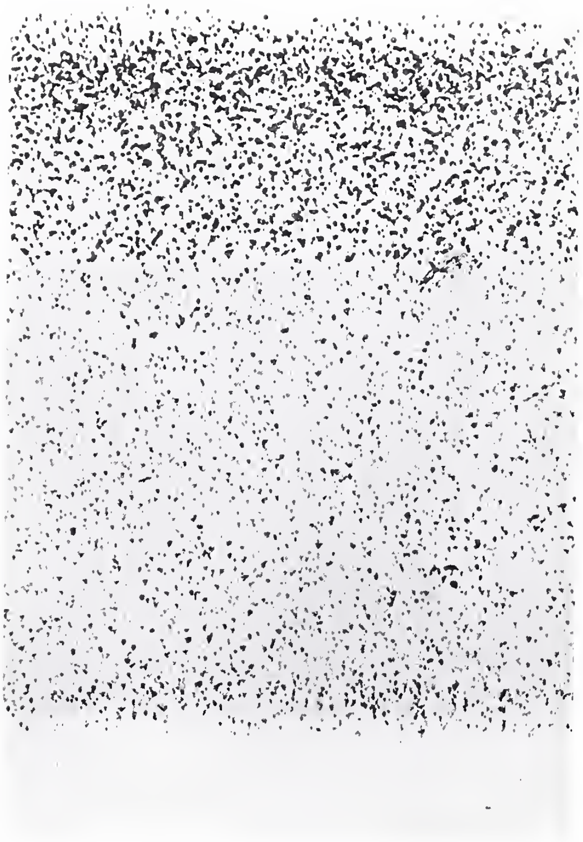


Fig. 1.—Photo-micrograph through the sky portion of a negative on a Cristoid film (transverse section).

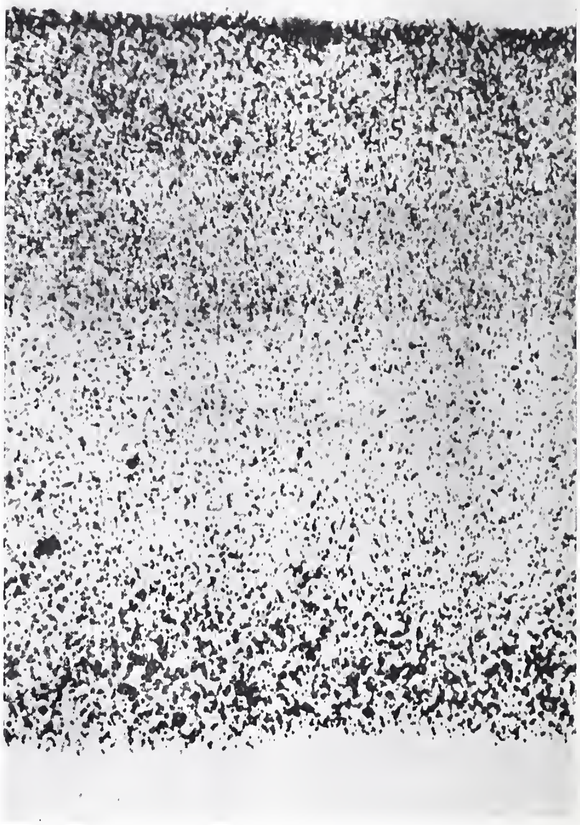


Fig. 2.—Photo-micrograph of a transverse section through a negati on a Cristoid film (660 times the normal exposure).

The Trade and Professional Sections at the "Royal."

As we enter through the turnstiles into the "Fountain Court" the stalls of the various trade exhibitors will be found arranged around the walls.

WELLINGTON AND WARD

occupy the same space in the corner to the left-hand side that they held last year. Here, Mr. J. H. Avery, who has been recounting in *Photography* his experiences in Morocco, is in charge. The walls are hung with enlargements made upon Wellington and Ward's papers from negatives on their films, and testify to the quality of these productions. In the centre of the space is a pagoda-like construction, lit from within, displaying to advantage the film negatives arranged around it. Spools of developed film negatives are also on view, and those who have not yet made their first essay in working with this material should take the opportunity of learning from these what correct exposure, followed by correct development, can effect in producing rolls of negatives, all perfect in technique. Passing the entrance to the South Room we find in the corner of the doorway the stand of

J. H. DALLMEYER, LTD.,

curtained in green and white. On the outer walls of this optical temple are examples of work done with the Adon lens, and illustrating its wide adaptability. Our readers will recognise a portrait by Mr. W. Cadby, reproduced in these columns some time since. The soft diffusion of focus in this picture may be contrasted with the vigorous portraits near by, and with the fine definition in other examples. The new Stigmatic hand camera lens, Series 1a, working at f/4.5, which has been in preparation some time, and is now ready, is on view. It has been produced to meet the demand for a lens working at a large aperture and less bulky than the Series 1. They cover well the sizes of plates, for which they are listed with a moderate rise of front. An untouched enlargement, 36in. by 24in., from a quarter-plate negative made with this instrument, adorns the interior of the stand. Examples of the 1a focal plane camera are also shown. In this instrument lenses of widely different foci may be used, stops being provided by which the camera may be instantly set to the required extension. The Correspondent's camera, in quarter-plate, half-plate, and 5in. by 4in. sizes, are displayed, as is also a new model of the Naturalist's camera fitted with its telephotographic lens. The Dallmeyer hand camera, the Popular hand camera, several field cameras designed for use in tropical climates, and the Dallmeyer-Sanderson camera, designed for rigidity, are all exhibited. A series of prismatic binocular glasses claim attention, as these have been recently reduced both in bulk and in price, while arrangements have been made to facilitate cleaning them. Next in order comes the stand of

SANGER SHEPHERD AND CO.,

where photographs in natural colours abound, together with the instruments necessary for their production. Examples of the older process, in which red, blue, and yellow-stained films were superimposed to form the complete picture, will be found side by side with the newer method, in which the colour from the red and the yellow positive is transferred to one film or sheet of paper as the case may be. The improved repeating back (adaptable to ordinary cameras) is designed to carry three quarter-plates, on which the colour records are made. Several improvements have recently been made in these, and incidentally we may mention that the Cadett Spectrum plates used have reached a sensitiveness of 300 H. and D. Cameras in which the three-colour records of objects not nearer than thirty-five yards may be taken in one-tenth of a second, under favourable conditions, will attract attention. Examples of the work done in these by a purchaser will be found in the gallery above (No. 503). A camera taking the three records simultaneously with one lens by means of mirrors enables objects to be dealt with when near at hand, but is comparatively slow. Of equal scientific interest is the spectroscopic camera, in which five or six spectrographs may be secured on one plate, and photometrical instruments based upon those devised by Sir W. Abney and Mr. Chapman Jones. Of less popular interest is the camera devised for recording pathological subjects in colour. Of more general interest are the lanterns, whether for ordinary copying, enlarging, and reducing, or as fitted with attachments for use in colleges and schools. An electric dark room lamp, in which the light may be lowered to any extent by an ingenious switch fitted with resistances, will be an object of envy to those who have been bothered with the ordinary type of oil lamp. It is fitted with green glass, safe for the most rapid of ordinary plates under reasonable conditions, and does not fatigue the eye. A deep red light is substituted when colour sensitive plates are in use. At the opposite side of the entrance to the West Room,

ADAMS AND CO.

have their name in bold copper letters around their stall. Here are to be seen cameras and apparatus of all descriptions, including the "Videx," with the focal plane shutter, which we reviewed some weeks since. Amongst other hand cameras are the "Natti," the "Yale," and the "Locka," while amongst the field cameras are the "Club," the "Challenge," and the "Amateur." The new patterns of changing boxes should not be missed, and amongst the other apparatus shown there are many instruments to interest the photographer. Pursuing the circuit of the court, we come next in order to the recess occupied by

C. P. GOERZ,

where numerous examples of the lenses made by the house, and of work done by them, are in evidence. The Hypergon double anastigmat, which we reviewed last year, claims attention by reason of the enormous angle that it embraces, and, while not being for everyday use, enables work to be done quite impossible without it. The Goerz double anastigmat Series 1B and 1C are of more general usefulness, and call for notice. The visitor who is interested in shutters should not fail to see the Sector shutter, a description of which we published recently. The Goerz-Anschutz folding cameras in the ordinary and stereoscopic models are on view, as is also a new telephotographic attachment. Binocular and monocular glasses for which the house is distinguished are also shown. Adjoining this stand is the space occupied by

W. WATSON AND SONS,

who exhibit their new "Antinous" release for roller blind and diaphragm shutters. This release takes the place of the older rubber tube and balls, and should be inspected. A new model of the "Acme" camera with triple extension and a new pattern of a rising front is on view, as are also the "Combination" studio camera and stand, "Premier," "Alpha," and "Vril" cameras, changing boxes, and aluminium tripods. The "Holostigmat" lenses, of which we had to write in commendation some time past, may be seen, together with a variety of shutters and other apparatus of value. At the opposite side of the doorway

GEO. HOUGHTON AND SONS

have a very varied exhibit, including the Sanderson camera in all patterns, the "Dalo" hand camera with its remarkable device for the changing of cut films carried in daylight loading spools, the well-known Ensign roll film camera, which also carries plates, and a new model of the "Scout" hand camera. The "Suspension" print washer, one of the most commonsense-like arrangements we have seen, is equally useful for washing film negatives, whether cut or in the roll. The V.H. printing frames are made in all sizes, from quarter-plate to whole-plate, and have a very neat clamping arrangement. They permit nearly the whole of the print to be inspected. A number of dark room lamps are shown, and we noticed also the improved "Tyma" trough, Smyth's stereo hand camera, and some brass telescopic tripods. The Sanderson "Tourist" changing box is worthy of inspection, and we were pleased to hear that the large number of telephoto lenses on view are there in response to the growing demand for this instrument. By the side of this stall is that of

SANDERS AND CROWHURST,

who exhibit the "Birdland" camera, a focal plane reflex camera of new design, and the "Bloknote" camera, a small instrument which we shall have more to say about in a future issue. A model of the Southport enlarging easel and table was to be on view, but was not in evidence at the time of our visit. Some small but interesting pieces of apparatus are shown, and the folding Sandhurst camera and the Journalist camera should not be missed.

BURROUGHS, WELLCOME AND CO.

have the space under the balcony, which they occupied last year. The exhibit comprises examples of the "tabloid" form of photographic chemicals for which this house is noted. Practically every developer, reducer, intensifier, and toning agent is now made up in the compressed form, as are sundry chemicals used in the various processes. The firm's well-known exposure record and diary is shown, and prints, lantern slides, etc., made by the tabloid chemicals. Crossing the Court we come to the north-east corner, where in former years

THE PLATINOTYPE CO.'S

flash-light apparatus used to illuminate the room at irregular intervals. Portraits will not be taken by the light this year, we understand, but there is no lack of interest in the exhibits shown. Those who are accustomed to work only with the A.A. or the C.C. papers should make a systematic examination of the prints on the table. The B.J.B. paper is prepared both in black and sepia, has a crape-like texture, and gives softer results from harsh negatives than does the C.C. paper. On the other hand K.K., a stout fine surface paper, gives greater contrasts from flat negatives than does the C.C. The B.R.B. gives similar results, but has a still finer grain, while the T.T. paper is similar to the K.K., the principal difference being that of grain. The Y.Y. and Z.Z. papers are more expensive than the ordinary, being very heavy in substance and have a rough grain. Prints upon linen sateen and cretonne are also to be seen. The sepia variety of these papers gives images in a fine broken black. A portfolio of American portraits may afford useful hints in the treatment of the margins of the prints. These margins have been printed in one or two instances from negatives of watered silk, ribbed fabric, etc., and present a remarkably fine appearance. If negatives are handed to those in charge of the stand, prints will be made upon paper selected to suit them, and will be developed at an appointed time at the exhibition. Adjoining this stand is that of

THE BROOKS-WATSON DAYLIGHT CAMERA CO., LTD.,

where the "Rajar" daylight loading system for cut films may be seen in operation. Ten films are packed in a tin case, and this is placed in a special form of dark slide in which the changing is effected? A number of the dark slides are arranged in order, showing the sequence of the operations, and information on the subject is given. Cameras with the Rajar changing apparatus are exhibited, and it is worthy of notice that the fittings are applied to the slide and not to the camera, leaving the latter in its original form.

Professional Photographs in the North Room.

FURLEY LEWIS

has a very effective panel of thirteen portraits and character studies. Amongst them is a striking portrait of Mr. T. R. Dallmeyer, and an equally characteristic portrait of Mr. A. W. W. Bartlett, the secretary of the Society. No. 3 is a very happily arranged group of an election committee. The remaining portraits call for examination, and if No. 10 is a trifle too obviously theatrical, the subject is one in which the make up is difficult to arrange naturally.

THE ROTARY PHOTOGRAPHIC CO., LTD.,

have arranged their panel in a manner that calls attention to the capabilities they possess for reducing prints in large numbers. Two figure subjects, facing each other and repeated vertically, have a strangely decorative character when first seen from a distance. There are numerous examples of bromide prints toned and untoned, and an endless variety of Rotograph matt surface postcards.

J. J. GRIFFIN AND SONS, LTD.,

have their exhibits displayed on three panels designed by Warings. On the centrepiece are prints on Velox paper. The small circular prints call for attention as being on a new grade of Velox paper, shortly to be introduced under the name of "Art Velox. When brilliance and richness in the shadows are required this paper would appear to meet the demand. On the side panels are prints on the matt and middle grain Carbona papers. The variety of effects readily obtainable are exemplified, some of the prints being toned with platinum, while others are fixed without toning.

KODAK, LTD.,

divide their exhibits between six panels and a frieze. Noteworthy exhibits are the comparative prints made from negatives on non-curling film, which is colour sensitive, and from negatives upon ordinary film, together with the colour chart employed. The colour screens used appear to have been somewhat over strong, as while the green, orange, and plum colour sections are correctly rendered, the blue is distinctly too dark, and the yellow is too light. Other prints show the effects of the orthochromatic qualities of the film in flower studies, and also the absence of halation. Some excellent pictorial work gives evidence as to the bright qualities of the company's Solio paper, matt and glossy, the collodio-chloride paper, Kodak platinum paper, and the Royal bromide paper. Three enlargements on Royal bromide paper from panoramic negatives make up a most effective frieze.

THE AUTOTYPE CO.

are represented by some twenty-eight prints, eleven of these being reproductions of paintings showing the fidelity in the rendering of such works to which the company has accustomed us. The remaining seventeen are enlargements from negatives by various well-known workers, and do equal credit to the producers of the original negatives and to the Autotype Co. and its tissue.

A. GARSTIN AND D. K. ANTROBUS

show portraits and character studies of well-known people. As these are priced they will appeal to many who may desire to possess portraits of those in whose career they are interested.

T. C. TURNER

is also represented by portraiture of the delicate type for which he is noted. Several of the prints are portraits of those well known to the public.

J. R. GOTZ

has some fine examples of work done upon his chromatype paper, which, as probably most of our readers are aware, is worked in the same manner as the home-prepared gum bichromate papers. The fourteen prints in divers colours exhibit the range of gradation possible and the effects to be obtained when working in this medium, although the portrait called "A Spanish Guide" is not of a guide at all, but of a well-known gipsy frequenter of the Alhambra.

Occupying the centre of the east wall is the exhibit of

THOMAS ILLINGWORTH AND CO.,

who show a number of fine prints upon the firm's carbon tissue. The portrait of Sir Robert Findlay attracts the eye at once. "Tired" is a fine production, and the surrounding prints amply verify the reputation which Messrs. Illingworth's goods have won. The quality of the tissue as shown in smaller work may be judged in the exhibit of

MISS LENA CONNELL,

the whole of which is printed upon Illingworth Gravure tissue. The fourteen prints shown here are portraits and fancy pieces that call for close inspection.

SAMUEL J. BECKETT

shows portraits and studies, amongst which are portraits of Mr. A. L. Henderson and Dr. Grace, and adjoining his exhibit is that of

MISS CATHERINE EDMONDS,

who shows sixteen prints, chiefly portraits well worthy of careful study. The child subjects will claim the attention of the lady visitors. Amongst so much that is good we regretted to note that the miniatures were somewhat highly coloured.

Confessions of an Exhibitor.

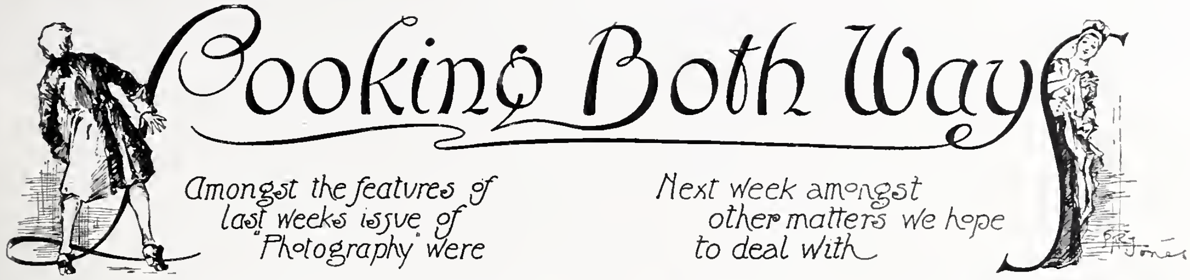
1. It seems, a bad exposure
   Or a print with coffee stained
   Is the only thing to go sure
   Of a Salon corner gained.

2. But if it's Royal favour
   That you're seeking, be discreet.
   Deep gloom is not the flavour
   That they like in Regent Street.

3. My picture of a lily,
   And the pot wherein it grew,
   Was scorned at Piccadilly,
   But was medalled at the "New."

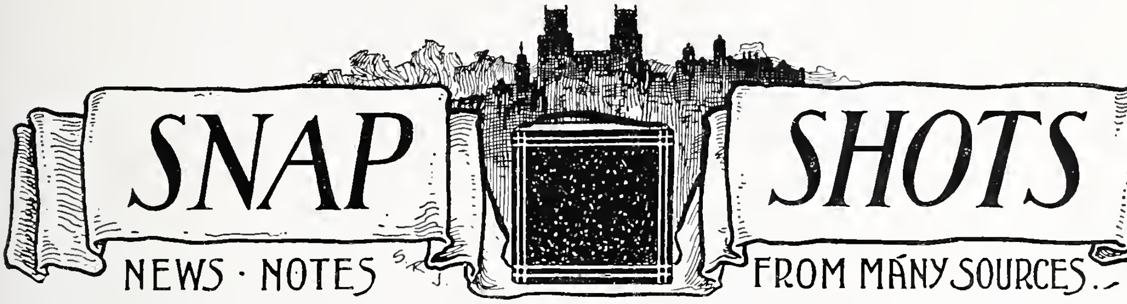
4. My composition muddley,
   That development did spoil,
   Was welcomed at the "Dudley,"
   But rejected at the "Royal."

F. C. T.


Looking Both Ways
Amongst the features of last weeks issue of "Photography" were
Next week amongst other matters we hope to deal with
S.R. Jones

The Salon Exhibition, with a fully illustrated critique.

The production of rich warm tones upon bromide prints.


SNAP SHOTS
NEWS · NOTES FROM MANY SOURCES
S.R.J.

A demonstration with Coxin was given at the Liverpool Amateur Photographic Association on the 23rd ult. by Mr. N. E. Luboshez. The plates, we are told, developed without the slightest trace of fog.

× × × ×

A photographic society for Bacup was the subject of a meeting held on the 22nd ult., when the Rev. J. S. Doxey presided. A public meeting was called for the 1st inst. at the Y.M.C.A. rooms in Market Street at 8.30, when a full attendance of photographers was desired.

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Light struck plates may be utilised as vignetting masks by developing them till quite black and then removing an oval or other suitably shaped patch from the centre of the plate. This may be done by softening the gelatine with dilute hydrochloric acid and scraping it away with a knife. To soften the edge of the vignette, lines may be cut through the gelatine radiating from the centre outwards.

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The employees and friends of Messrs. Gardner and Co., of Glasgow, had an enjoyable evening on the 24th ult., when the firm gave an "at home" at the Charing Cross Halls.

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We regret to hear of the sudden illness of Mr. W. Moult, of Messrs. Moult Bros., on Friday last while in the Oxford Street depôt. Mr. Moult was conveyed to his home at Ealing, where with proper attention it is hoped he will rapidly recover. Mr. Duncan Hindley, of Messrs. Fallowfield, has also been on the sick list, but it is a pleasure to record his gradual recovery and attendance to business again.

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The third Cambridge photographic exhibition was held on the 16th and 17th ult., and the following awards were made: Class I.: Silver medal, Rev. H. R. Campion; bronze medal, T. J. Sowdon. Class II.: Silver medal, Mrs. C. S. Addison; bronze medal, Alphonso Smith; highly commended, W. F. Bullen; commended, Rev. H. R. Campion. Class III.: Silver medal, Alphonso Smith; bronze medal, H. W. Chapman; highly commended, J. Johnson and A. G. Swannell. The challenge cup for the best picture in Classes 1, 2, and 3 was awarded to the Rev. H. R. Campion for exhibit No. 63. Class IV.: Second prize, Miss M. Clark. Class V.: bronze medal, W. C. Squires; special bronze medal, W. Farren. Class VI.: Gold medal, P. W. Crane; silver medal, S. G. Kimber; bronze medal, H. W. Chapman; highly commended, W. A. Clark, Graystone Bird, F. G. Tryhorn, A. Marshall; commended, Graystone Bird and Rev. H. R. Campion.

Mr. Dunmore is about to add to his list of auction sales one devoted to guns and shooting implements.

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"La Photographie Judiciare," by R. A. Reiss, published by Charles Mendell, of 118, Rue d'Assas, Paris, at sixteen francs, is a volume of some two hundred and thirty pages with numerous illustrations and plates. It serves as a testimony, if one were wanted, to the thoroughness with which such things are treated on the Continent. Some of the illustrations are ghastly enough, and were probably of less service to the police than the less ostentatious photographs of finger prints so carefully reproduced. The work should be of service to those whose business it is to track down criminals and bring them to justice.

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The soiree at the New Gallery. The opening of the Royal Photographic Society's Exhibition on the 23rd ult. was celebrated by the usual entertainment offered to the members and their friends. The president, Sir Wm. Abney, supported by the council, received the company, and shortly after the rooms were thrown open a large attendance had gathered, and the greetings of old friends were heard in all directions. A slowly moving crowd, three or four deep, circulated past the pictures, and congratulations on the successful nature of the exhibition were interchanged. The hum of conversation was accompanied by the strains of the band, and the consensus of opinion was that the gathering, like the exhibition, was the best the society had held. The rooms, which were rather densely crowded at the beginning of the evening, thinned a little as the hours passed, but when the parting hour arrived there were still many present.

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An international exhibition of photography, its appliances, literature, etc., is to be held at Berne, opening on the 25th of November. Full particulars can be obtained on application to the president, Prof. Deichselt, Bühlstrasse 19, Berne, Switzerland. Arrangements have been made to insure all exhibits and admit them duty free.

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The offices and warehouses of Messrs. Seabrook Bros. and Co. are about to be removed to 32, 33, and 34, Featherstone Street, City Road, E.C.

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The permanent collection of the Royal Photographic Society, we learn, is to be increased this year by the following works, which have been purchased from the present exhibition: "Towing the Barge," by A. I. Hensler; "Ave Maria," by Mrs. Barton; "Fenland," by J. H. Gear; "The Awakening," by Mrs. Barton; "Oscar Arndt, Esq.," by Furley Lewis; "Lassitude," by C. E. Semon. Everyone will agree that the selection has been made with taste and judgment.

SNAP SHOTS.

THE "PERSONAL FEELING" of the photographer should be expressed through his mastery of chemical effects, rather than by drawing directly on the negative.—"A.J.F." in the *Morning Leader*.

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WE HEAR WITH REGRET of the death of Mr. Washington Teasdale, of Leeds, which took place on the 19th ult. A devoted adherent of photography there were few branches of scientific study to which he did not give some attention, and he had a wide acquaintance amongst scientific men. He was a Fellow of the Royal Astronomical Society, the founder, and at one time president, of the Leeds Astronomical Society, and actively interested himself in the local scientific, photographic, and literary societies. Mr. Teasdale was seventy-three years of age at the time of his death.

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THE KETTERING CHURCH INSTITUTE holds an exhibition of photographic work from the 21st to the 23rd inst. Classes open to amateurs and others to professionals are arranged for. Particulars may be had from the honorary secretary, Mr. E. Claypole, 112, Hawthorn Road, Kettering. Entries close on the 19th inst.

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THE EXHIBITION of the Bishop Auckland Photographic Society will be held on the 17th and 18th of November. There are open classes, the entries to which close on November 14th. Forms and particulars can be had from the honorary secretary, Mr. J. Welsh, Salisbury Place, Bishop Auckland.

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THE VARIATION in the electrical conductivity of selenium has been known for a very long while, and many phototelegraphic devices have turned upon it. It is now said that selenium is affected by the radiations from indiarubber that has been treated with ozone, as it is by light.

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A PHOTOGRAPHIC EXHIBITION in connection with the Plymouth-Devonport-Stonehouse Trades and Industrial Exhibition will be held from November 4th to 18th. Entries close on the 24th inst. Particulars can be obtained from Mr. Chas. R. Rowe, of 2, Walnut Villas, Cockington, Torquay.

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WE WERE GLAD TO SEE Mr. E. J. Wall again on his feet at the press view of the R.P.S. exhibition, though he has not yet been able to dispense with the aids to locomotion he has had to rely upon for so many weary months.

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THE PHOTOGRAPHIC POSTCARD CLUB is in process of formation. The entrance fee is 1s., with an annual subscription of the same amount. Particulars can be obtained from the organising honorary secretary, Mr. G. Cave, 7, Russell Avenue, Bedford.

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"PHOTOGRAPHIC LENSES, A SIMPLE TREATISE," by Conrad Beck and Herbert Andrews, has now reached the fourth edition, making 10,000 copies of this excellent work that have been placed upon the market.

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THE ANNUAL MEETING of the Whitby Camera Club was held on September 22nd. Mr. W. Brown was reappointed president, and Mr. G. S. French honorary secretary.

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THE CAMERISTS' POSTAL PHOTOGRAPHIC CLUB has a new honorary secretary in the person of Mr. A. Turner, of 99, Carr Road, Walkley, Sheffield, Mr. S. T. Talbot having resigned.

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MEDALS V. PLAQUES. A rumour reaches us that there is a probability of specially designed plaques being substituted for medals as awards at the forthcoming exhibition of the South London Photographic Society. The "South London" specially caters for the needs of beginners, a series of elementary instruction evenings having been arranged for the winter months. A postal portfolio section has also been inaugurated.

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AT THE ANNUAL MEETING of the Brechin Photographic Association, held on the 16th ult., the following officers were elected: President, W. S. Adamson; vice-presidents, R. W. Drake and J. M. Dunn; treasurer, D. M. Watt; curator and lanternist, R. C. Dalgity; portfolio editor, J. Kirk; council, J. Kirk, H. S. Dyer, A. Keay, and G. Douglas; honorary secretary, J. C. Robertson.

PRINTING BY CONTACT ON BROMIDE PAPER was the subject of Mr. C. J. Atkinson at the Marple Society on the 24th ult. In working with amidol he said that much depended upon the quality of the sodium sulphite used; samples that were alkaline would produce fog. He emphasised the necessity of working at measured distances from the light if regular prints were to be obtained, and showed the use for the purpose of a board marked in feet and also of a string knotted at different distances.

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MR. JOHN H. GEAR will be the instructor in two photographic classes during the winter and next spring at the Cripplegate Institute. One class is general in its application, and the other is devoted to enlarging. Practical instruction is aimed at, the students being encouraged to take their own negatives to work from. Chemicals are provided free, and the use of modern apparatus. Full information as to fees, etc., may be had on application to the secretary of the institute in Golden Lane, London, E.C.

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THE NEW SERIES OF SHOWCARDS issued by Messrs. Elliott and Sons, Ltd., of Barnet, are extremely effective, and bear some choice examples of prints upon the firm's papers. Nothing, we suppose, would more facilitate sales than work actually executed upon them and giving ocular demonstration of the tones and effect than can be obtained. Dealers should make a point of securing and displaying these cards.

× × × ×

THE EALING PHOTOGRAPHIC SOCIETY holds an exhibition on the 28th and 29th inst. Entries for the open classes close on the 19th inst. Particulars can be obtained from the honorary secretary, Mr. A. Richardson, Town Hall, Ealing.

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THE ROOMS of the Sunderland Camera Club were declared open on the 28th ult., when the winter session began. Members have the use of a dark room, enlarging lantern, and a well-selected library. Copies of the leading photographic journals lie upon the table.

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A DUTY OF ABOUT ONE FARTHING A POUND, it is said, will now be placed by Germany under her new tariff upon calcium carbide, which hitherto has been duty free.

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THE NEW PRICE LIST issued by Messrs. Hurman, Ltd., runs into two hundred and fifty pages of closely printed and well illustrated matter. From the goods referred to photographers will have little trouble in selecting those they require.

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"THE SUNNY SOUTH" was the subject of a lecture by Miss Cann at the Liverpool Amateur Photographic Association on Thursday in last week. It dealt with Havre, Rouen, Oporto, Lisbon, Cintra, and Madeira.

A New Hypo Eliminator.

AN agent that will ensure the absence from the film of the last trace of hypo without endangering in any way the permanence of the image has much to recommend it. When intensification has to be performed the presence of even a minute proportion of hypo will lead to disastrous results, and although we seldom use anything but water, and plenty of it, as a hypo eliminator, there is doubtless a satisfaction in using a bath that will make assurance doubly sure.

The Bayer Co., of Manchester, in placing their fixing salt destroyer upon the market very sensibly recommend that it should be applied after the plate has been washed, and we would add washed thoroughly. Even after prolonged washing there is left a proportion of the hypo large enough to be detected by the ordinary tests, and probably sufficient to act injuriously when the negative has to receive after treatment. It is in removing this last trace that hypo eliminators prove useful, and it is in relying exclusively upon such chemical means of removal and in neglecting to give the proper amount of washing that danger steps in.

The eliminator is in the form of minute white crystals, of which for use one hundred and sixty grains are to be dissolved in thirty-five ounces of water. The plate which is to be treated is first immersed for a few minutes in this solution, after which a brief washing with plain water completes the process.

Modified Kallitype.

Among other printing methods I have attempted is Kallitype, says Mr. James Thompson, in the *Photo-Beacon*. To those who have tried it, it will be no surprise when I say that it has one serious fault that seems difficult of elimination, and that is the bronzing of the shadows when using a negative of more than ordinary contrast. All the writers seems to ignore this objection to the process, although it precludes the use of the process for many purposes, and often makes it necessary to throw away an otherwise satisfactory print on account of its presence.

I have experimented to overcome this trouble with varying success. Sometimes I succeeded, and then again just when most confident, mixing up a new lot of sensitiser, for some reason or other I would fail, and not only fail, but with the same manipulation get colours entirely different from those I had previously obtained. However, I have succeeded more than once in getting beautiful results, and in the hope that others may profit by my experience I have felt constrained to give my formula for others to tinker with if they see fit.

The sensitiser is compounded as below:

Silver nitrate	30 grains
Ferric oxalate	75 ,,
Iron citrate and ammonia	10 ,,
Copper chloride	9 ,,
Distilled water	1 ounce

The ferric oxalate is dissolved in warm water and allowed to stand over night. Then the other ingredients are added, and, when all are dissolved, the mixture is filtered through absorbent cotton. The paper is coated evenly with this, and when thoroughly dry, printed until the deepest shadows are well defined. The image will be of a salmon colour, differing from regular kallitype somewhat in this respect.

For the developer twenty-five grains of Rochelle salts are dissolved in each ounce of water, and in a separate bottle forty-five grains of borax to the ounce of water; by combining the two in varying proportions different colours will be obtained. The more borax the darker the tone. Four grains of potassium bichromate are dissolved in one ounce of water, and from four to twenty drops of this added to each ounce of developer, always adding enough to ensure pure whites and vigorous prints. The prints are left in the developer for from fifteen to thirty minutes, and are then washed and cleared for ten minutes in the following bath:

Strong ammonia	1 dram
Water	16 ounces

They are then again washed for thirty minutes and dried in the usual manner.

Edinol in a New Form.

During the short time it has been on the market edinol has attained a considerable popularity as a developer for both plates and paper, and that in the crystalline form as well as in a concentrated solution. Its extreme cleanliness and adaptibility for all classes of work have had much to do with this success.

To meet the demands of those who prefer to work with measured quantities in a compressed state, the Bayer Co. now issue it in tablets, accompanied by other tablets of the necessary amount of alkali. These are securely packed in well-sealed glass tubes as a protection against oxidation. One each of the tablets is added to three and a half ounces of water, and makes a developer possessing all the good qualities attaching to the original preparation. The proportion of alkali has been well calculated, the image appearing rapidly and developing to full density without the slightest suspicion of fog.

Photography by Rule.

"Photography by Rule," by Mr. John Sterry, just published by Iliffe and Sons, Ltd., at one shilling nett, is essentially a handbook for those who, having acquired some practical skill, and having become satiated with their rule of thumb procedure and the chance successes it brings, desire to place their practice upon a sounder basis. Many of our readers who perused the work when its contents appeared in our columns will be glad to have it in bound form.

Mr. Sterry's long experience and experimental work eminently fit him for the post of tutor in such matters. In his introduction he says, "It is only within the last fifteen or twenty years that any real effort has been made to put photographic action upon a really scientific basis. All attempts to estimate results by means of the eye proved futile, and until apparatus was devised for measuring the value of photographic deposits of silver, no material advances could be made."

Hitherto the learner who desired to make himself acquainted with these investigations and to apply them in his work was obliged to hunt up the original papers in the various publications in which they were recorded at the times of their delivery, and having found that they were fragmentary in character, and frequently beyond his comprehension, Mr. Sterry's task has been to give in succinct form the results of the work done in this direction, dealing with them by the light of his own experience, and leading the student in orderly sequence through the mazes of the subject to the practical application of the knowledge gained.

The average worker who follows the methods laid down will find that improved results will be accompanied by a marked economy in time and material, while the beginner who acts strictly according to Mr. Sterry's instructions will find his path singularly easy.

The Medals at the R.P.S.

The following is a complete list of the awards at the New Gallery this year, the judges, be it noted, being Mr. Crooke, Dr. Emerson, Messrs. Mummery, Storey, and Wellington. There has been little comment upon the awards, favourable or the reverse; the general feeling for some years having pointed unmistakably in a direction away from medal giving:

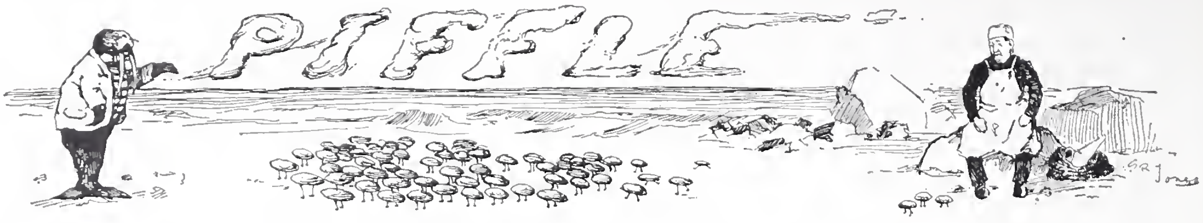
75.	"Towing the Barge."	W. A. I. Hensler.
131.	"An Italian Fruit Stall."	Percy Lewis.
144.	"Fenland."	John H. Gear.
167.	"The Awakening."	Mrs. G. A. Barton
215.	"Eastern Crypt, Winchester." ...	William A. Clark.
316.	"Portrait of Oscar Arndt, Esq." ...	Furley Lewis.
356.	"Lassitude."	Carle E. Semon.

The Pictures from the Two Exhibitions.

The pictures from the two exhibitions which we reproduce this week by the courtesy of the exhibitors are as follow:

6.—The Captive. By Miss Kate Smith. (No. 78, Salon).
7.—Briar Rose. By J. Cruwys Richards. (No. 45, Salon, 15in. x 11in., £4 4s.)
8.—Billingsgate. By F. C. Mills. (No. 208, Salon, 6in. x 4½in., 10s. 6d.)
9.—The Mill at Evening. By J. C. S. Mummery. (No. 122, R.P.S. Invitation Section, 11¼in. x 8½in.)
10.—Extenuating Circumstances. By Miss Constance H. Ellis. (No. 147, Salon, 14in. x 11in., £2 5s., and No. 139, R.P.S., 8in. x 6in., £1 1s.)

When a price is given it is for the framed picture, the sizes being the dimensions of the print, excluding frame and mount. Intending purchasers should communicate with the Secretary of the R.P.S., New Gallery, Regent Street, London, W.; or with the Secretary of the Photographic Salon, Dudley Gallery, Piccadilly, London, W., as the case may be.



"The time has come, the Walrus said, to talk of many things."

WHEN someone undertakes to set forth the history and romance of the R.P.S. exhibition, he may rely on the two following items as solemn facts. In 1901 a print was accepted, hung, and sold, but before the first week of the show was over the picture was well on the way to complete dissolution. It was made on a new paper that was quite permanent—

* * *

For at least some hours.

* * *

By the way it is only charitable to suppose that one or two other prints that have been hung have been suffering from the same complaint, and were not intentionally made by the authors thereof as they appeared on the walls.

* * *

The second incident, I should opine, creates a record. If not, I shall be glad to receive properly sworn affidavits of anything to beat it. A friend of mine decided this year to submit three frames to the Selection Committee of the Royal, and the three frames were made accordingly. He went farther, and made prints for two of them. On the last day for receiving prints, midday was long past before he had done anything towards providing a print for the third frame, and he hardly liked to send it in without something in it.

* * *

What did he do? Did he give it up as a bad job? No. He calmly set to work and made an enlarged negative, which he dried after immersion in alcohol. (Immersion of the negative, that is, not of himself.) He then proceeded to make a carbon print, which he successfully developed, alumed, and washed. He next ran a mile to the station with the flabby print, caught a train, hung the print to the luggage rack, opened the carriage windows, and journeyed to town.

* * *

Arrived at the frame-makers, he proceeded to spot the wet print while the two finished pictures were being put into their frames. Then the wet carbon print was smacked against the glass, and backed up. A cab (with a heavily bribed driver) made a break for Regent Street, and the three pictures were duly handed in.

* * *

One of the three was accepted, but I dare not say whether it was the wet one or not. Perhaps visitors to the Royal would like to use their eyes and see if they can find a jolly fine carbon print that looks as if it had been sloppily slapped against the glass. If they can, perhaps that is the one I mean. If they can't, perhaps it was one of the dry ones that got in. As for me, I know, but say nothing.

* * *

I hear there was a brief but fiery discussion the other night at a meeting of a Scots (I think that's the correct word) society, as to whether or not the dark-rooms, enlarging apparatus, etc., should be available for use on the Sawbath. The weightiest argument (?) against the proposal was that it was not respectable to do photographic work on a Sunday.

* * *

Besides it hurt the feelings of people on their way to the golf-links.

* * *

One member declared the society was no good to him if he could not use the rooms on a Sunday. That was all he had joined for, and if he were to be debarred from that they could wish him good evening, and spend his subscription on texts to hang up in the rooms—or words to that effect.

* * *

There are some people who entertain strange ideas on this question of Sunday photography. They wouldn't take a camera out on that day for the world; or, rather, to be quite correct, they wouldn't be seen taking it out. But they don't mind working off a big batch of prints in the back garden on a Sunday.

* * *

I feel sorry for the gentleman who has been thus heartlessly deprived of his week-end enlarging, because he would doubtless have enjoyed himself in a very quiet way, and might have produced some good pictures which would have given pleasure to himself, and perhaps to others also. I tremble to think what he may now do on the day when it has been ordained that "we must neither work nor play." I suppose it will be a choice between golf and the kirk. Might I offer him a friendly suggestion? Let him set up his own enlarging apparatus. And let him further rigidly ignore all the inevitable requests from his former fellow-members that they may crawl in by the back door and do a bit of Sunday enlarging themselves with his outfit.

* * *

I am here reminded of an enthusiastic amateur, whom I will call Smith because that was not his name. The photographic society to which he belonged had exceptional facilities for enlarging, and Smith used often, in the height of his enlarging fever, to work away thereat well into the small hours. Well, one night, or rather early morning, he had hung up his last print to dry, and was heading for home through the dark and deserted streets.

* * *

Suddenly, in rounding a corner, a man stumbled against him, and Smith instinctively felt to see whether his watch was still where it ought to be. He had been stumbled against before. Sure enough, he found his chain hanging empty from his portly vest, and with a jump he had the stranger by the throat. "Fork out that watch now!" quoth Smith; and the stranger forked out accordingly, and then scooted down the street under full steam, his initial velocity being accelerated by a vigorous and skilful application of Smith's boot.

* * *

Whereupon Smith chuckled his way home. But when he arrived, and glanced at his watch to see if it were unharmed, he was electrified to find that, whereas his own watch was a modest silver one, the timepiece in his hand was a massive gold chronometer. It then dawned upon Smith that in the streets of his native town he had been guilty of highway robbery with violence.

* * *

In the morning he crept uncomfortably back to his rooms to take down his prints, and there was his own watch hanging on the enlarging easel, where he had left it the night (that is, morning) before (or, rather, that same morning. Hang these late hours).

* * *

Liberal advertisement failed to find an owner for the gold watch; and Smith now makes excellent play with it as he times his exposures on society outings. He has come to the conclusion that it will never be claimed, and thinks the stumbling stranger could have supplied him with a whole pocketful of assorted "tickers."

* * *

Which is very probable. THE WALRUS.

SUBSCRIPTIONS.

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Twelve months	15	0	Twelve months	21	8
Six months	7	6	Six months	10	10
Three months	3	6	Three months	5	5
Single copy		3½	Single copy...		5

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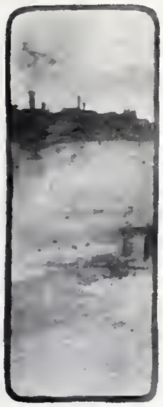
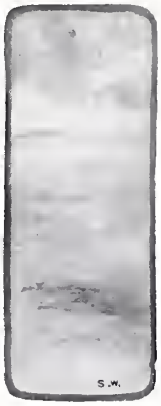
SPECIAL SUBJECT.—SULPHUR TONING BROMIDE PRINTS.





Notes on Sulphuretting a Silver Image.

By R. E. Blake Smith. Special to "Photography."

The article from Mr. Blake Smith's pen which we print below embodies a simpler and more satisfactory method of sulphur toning than that which he previously worked out and described in our columns ("Photography," vol. xiv., page 21, Jan. 9th, 1902). Our own results with this method are referred to in the leading article this week, while some remarks upon sulphur toning in general by Dr. Baekeland are given in that gentleman's communication to the Congress of Applied Chemistry, on page 313.

On three or four occasions within the last eighteen months I have had the opportunity afforded me of bringing to the notice of the readers of *Photography* an indirect method of converting a silver image into one of silver sulphide, the object of this proceeding being to obtain brown tones on bromide or similar papers and on lantern plates. This consists of first converting the silver image into one consisting of a halogen compound of silver, or else of silver ferrocyanide, and then sulphuretting these compounds.

Now, there are three conditions with which this or any other process should comply:

(1.) It must yield a good and permanent result.

(2.) It must be easy to carry out.

(3.) It must be capable, if it is going to be of general use, of being performed in an ordinary house or photographic laboratory, without damaging any of the surrounding objects, or causing annoyance to the operator or his neighbours.

None of the methods of indirect sulphuretting yet published, either by myself or by others, have wholly satisfied these three conditions. However, I have lately been able to clear up all difficulties, and to devise a method which is satisfactory in all these ways.

First as to Bleaching the Image.

I have come back to the view that iodine dissolved in potassium iodide solution is on the whole better than the bleaching powder method I formerly recommended. The chlorine evolved from the bleaching powder solution has so great an irritating effect on the operator's mucous membrane that it seriously interferes with his personal comfort. This is especially noticeable in the case of big enlargements on bromide paper, when a large surface of the chlorine evolving liquid is exposed. If the bleaching powder solution be used in dishes exposing a surface of more than about forty square inches it should be used out of doors. However, I would advise nobody to use it at all for this purpose. If it is used, the print must be well washed afterwards in running water before sulphuretting. The only bleaching solution which I recommend is:

Iodine	45 grains.
Potassium iodide	110 grains.
Water	to 10 ounces.

When the action of this solution is complete, the image appears yellowish white on a deep blue ground. The blue colour is due to an addition compound formed by the iodine with the starchy constituents of the paper. It is rather difficult to tell at this stage when the bleaching of the image is complete, but one soon gets into the way of judging the right time allowance. It is convenient to lift the prints in and out of the iodine solution by means of clips, which, of course, must not be made of metal. Any iodine stains on one's hands can be removed by the application of a solution of sodium sulphite, or of hypo, but the last traces are rather difficult to get rid of, and this is the reason why I recommend clips to be used.

The Next Operation

is to transfer the prints straight from the iodine bath into a five per cent. solution of sodium sulphite

(Na_2SO_3 $7H_2O$). They are left in this bath till the blue colour has been entirely destroyed. If it be now found that the bleaching has not been complete the print is thoroughly rinsed, and then put back into the iodine solution and left for a little time longer. It is then again treated with the sulphite bath. From the sulphite bath, which must not be allowed to get acid, the prints are immersed straight, without any washing, into the sulphuretting solution.

In a former letter I gave certain reasons in favour of using a solution of sulphuretted hydrogen (H_2S) in place of the solution of sodium sulphide (Na_2S $9H_2O$) which I had originally recommended. My recent experiments have shown that all the objections to sodium sulphide can be got over entirely.

Before describing the method of using this substance, I will briefly consider the possible alternatives and the reasons against their use. These alternatives are:

(1.) Sulphuretted hydrogen.
(2.) Ammonium hydrosulphide.
(3.) Yellow ammonium sulphide.
(4.) Potassium sulphurata B.P.
(5.) Calcium polysulphide.

Now, No. 1, as I have already pointed out, is excellent from the point of view of actual toning, but its odour is exceedingly objectionable and necessitates the operation being conducted out of doors. Sulphuretted hydrogen gas escaping into the air of a room will not only pervade the whole house with its most offensive odour, but will tarnish any silver plate, brasswork, or similar things, and will injuriously affect any photographic plates or silver printing papers with which it may happen to come in contact. The same objection holds with regard to Nos. 2 and 3, as both these solutions evolve sulphuretted hydrogen. With regard to Nos. 4 and 5, although they are fairly odourless, their use is highly objectionable, for they contain one potassium and the other calcium thiosulphate (hyposulphite).

It has been pointed out both by myself and other writers that some

Difference is made to the Tone

by varying the strength of the sulphuretting agent. I have lately proved that this is only the case where "hypo" or another soluble thiosulphate is present as an impurity. It is easy enough to see how this difference in tone is brought about.

A weak solution of sulphide gives the hyposulphite more time to act on the silver iodide, because its sulphuretting action is naturally slower, so that in this case we get a paler coloured print than when a stronger solution is used. With good sulphuretting solutions containing no hyposulphite, the concentration of the solution makes no difference to the tone obtained. The tone, as I stated in the letter I have already quoted, is solely a function of the original silver deposit.

Now to return to Sodium Sulphide.

This substance consists of large transparent deliquescent crystals, which are generally rather brownish in colour. It is labelled and sold under the name "Sodium sulphide (Na_2S $9H_2O$). Pure crystalline reagent for analysis." It cannot at the present time be obtained in stock at photographic dealers, but it can be ordered through them, or may be purchased directly from any dealers in pure chemicals, such as Baird and Tatlock, of 14, Cross Street, Hatton Garden, London, E.C.

While I certainly think this is a most excellent substance for sulphuretting purposes, I must at the same time protest against it being labelled "pure." It is nothing of the sort, but contains iron, whence the brownish colour of the crystals. When these crystals are dissolved in water the iron goes into solution too. Until quite recently I had no idea that such a state of things was possible. I thought any iron present would on solution be immediately precipitated as ferrous sulphide. In the crystals the iron very likely exists as a double sulphide of sodium and iron in the ferric state. On solution, this double sulphide is probably first converted into a double ferrous sulphide, and then very slowly ferrous sulphide itself is precipitated.

I stated in *Photography*, December 6th, 1902, that alkaline sulphides "affect to some extent the tint of the tinted or cream crayon papers," and "precipitate iron sulphide in the paper." The cause of both these occurrences I have traced entirely to the iron contained in the sodium sulphide I used. I also stated that "they are likely to cause blisters." This is quite true, but only if they are used in too concentrated a solution.

Having ascertained the causes of my previous want of complete success with sodium sulphide, I at once saw a way out of them by means of which sodium sulphide, with its great advantage of praccal odourlessness, could be employed.

The following is the Method I advise

of making up the sulphuretting solution. Weigh out one and a half ounces of sodium sulphide crystals. Dissolve these in about ten ounces of water and heat to boiling, stirring the solution gently with a glass rod. A glass beaker or a porcelain evaporating basin is a suitable vessel in which to heat the solution. Keep the solution just boiling for about five minutes, and then filter it. All the iron will be found to have been precipitated and left on the filter paper as black ferrous sulphide, and the solution will now be almost colourless. The solution is allowed to cool, made up to twelve and a half ounces with water, bottled, and labelled "Twelve per cent. sodium sulphide solution."

The sulphuretting bath is made by taking one ounce of the stock sodium sulphide solution and adding twenty ounces of water. Only a very short time is needed for complete sulphuration, but care must be taken to allow sufficient. I think it necessary to leave the print in the sulphuretting bath for at least a minute after all change in colour has apparently ceased.

After the sodium sulphide bath the print is washed for about two hours in running water, and is then finished.

As to the Permanency of the Result.

I believe that a print treated in the way I have described is possessed of better lasting qualities than one having a plainly developed silver image upon it. Silver sulphide (Ag_2S) is an exceedingly stable compound, and an image consisting of it must be regarded as an absolutely permanent one. An image consisting of pure silver also possesses excellent keeping properties, but we all know that silver tarnishes in the presence of sulphides, and, of course, silver sulphide, to the formation of which the tarnishing is due, does not. We all know that our silver plate becomes tarnished by prolonged exposure to the traces of sulphuretted hydrogen in the air, and the silver image of a print must to some extent share the same fate. Another cause of slow deterioration of silver prints due to the action of hydrogen sulphide is the decomposition of the emulsion vehicle, when that vehicle, as is the case with gelatine or albumen, contains sulphur. However, these are very slowly acting causes of fading; as is also the gradual failing of the actual paper on which the emulsion is spread, to which, of course, all kinds of prints are liable.

Practically speaking, by the fading of prints, we mean the quick fading only, *i.e.*, the fading at the end of three years or so. This quick fading of silver prints, when it occurs, depends on the presence of chemical impurities, generally traces of hypo not completely eliminated after fixing.

Now, in comparing the lasting qualities of the toned silver print and the original silver print we have chiefly to consider which method gives us the best chance of obtaining a print free from traces of hypo or other unstable sulphur compounds. It is well known that in all prints that have been fixed with hypo there always lurks, even after prolonged washing, exceedingly small traces of the reagent in the fabric of the paper. When iodine comes in contact with a thiosulphate the well-known action represented by

$$2Na_2S_2O_3 + I_2 = 2NaI + Na_2S_4O_6$$

in the case of the sodium salt occurs. An iodide and a tetrathionate are formed.

Although the thiosulphate is got rid of by the iodine, I believe the tetrathionate which is formed is equally objectionable, and so at first sight it does not appear that we are any better off. Still, the probability is that we are to some extent, for the chemical change will cause a certain amount of place disturbance, and so will help the subsequent washing to carry out its function. It must also be noticed that in actual practice one is certain to wash a toned print for a longer time in all than a plainly developed one. Any trace of a sulphur-containing compound introduced during fixing, and not subsequently entirely removed, will affect, in so far as it may cause sulphuration of the image, a plain silver image, but not one of silver sulphide; but in so far as it may lead to the eventual formation of sulphuric acid, it will probably equally affect all kinds of prints.

It appears, therefore, that everywhere the toned print holds a slight advantage in lasting properties over the untoned one.

To return to the consideration of the actual toning. As I have before said, the tone finally obtained is solely a function of the original silver deposit. The most pleasing tone is got when we have a good vigorous image to deal with—one in which the deepest shadows are of a pure black hue. Such an image can be well obtained by giving a correct exposure and developing with

Amidol	2	grains
Potassium bromide	½	grain
Sodium sulphite	20	grains
Water ... ... to	1	ounce

The tone obtained in this case is a deep rich brown, and is equal fully to that obtained by the hypo-alum method when that method is working at its *very best*. Now, in order to work the hypo-alum method at its best, certain conditions, as a rule not fully stated, must be complied with. I think these conditions are:

(1.) The bath must be "years old." This I was told by a professional photographer who obtains the very best results I have ever seen by the hypo-alum method.

(2.) Considerable over-exposure is necessary. I think about thirty per cent.

(3.) An amidol developer should be used.

(4.) The bath should be used much colder than generally recommended. I do not think the temperature should exceed 30° C. (86° F.) Of course, this slows toning—at the best slow enough.

The method is not so easy or so simple to carry out as the indirect sulphuretting method I have described, and it is only when working at its *very best* that it yields results equal to the indirect method. As to the permanency of the result, if the final washing is sufficient it is probably the same as that of an indirectly sulphuretted print; but there is this to be said, that, during toning, a deposit of finely divided sulphur may take place in the fabric of the paper and the film, which may not be so fine as to be washed out, and, if this be so, it cannot fail to shorten the life of the print.

The tones obtained on bromide paper by any sulphuretting method do not show very much variation in colour.

If a Wider Choice of Tint is desired

the indirect method easily adapts itself to this end. If after bleaching we use, instead of a plain sulphuretting bath, Schlippe's salt (sodium thioantimonate, $Na_3SbS_4 9H_2O$), either by itself or combined with sodium sulphite, a great variety of tones may be obtained. Schlippe's salt has before this been recommended, but I have not seen any reference in print to a mixture of this substance with sodium sulphide. Sodium thioantimonate is a very unstable salt; even the carbon dioxide of the air decomposes it, forming sodium sulphide, sodium thiosulphate and antimony tri- and penta-sulphides. The crystals are always covered with a crust of decomposition material, which must be washed off before use. The solution does not keep well, depositing sulphides of antimony. Silver thioantimonate is quite a stable salt, however, and an image composed of it may at all events be regarded as equal in keeping quality to a plain silver one.

In actual toning it is important to remember that the solution of Schlippe's salt should not be used too strong, about one per cent. being right, and that the print must not be immersed in water immediately after its use, but must first be put for a few minutes into a solution of ammonia of about one-third per cent. strength. If sodium sulphide be mixed with it the ammonia bath need not be used. These precautions are necessary to prevent any antimony sulphides being deposited in the film and fabric of the paper.

I have unfortunately found Schlippe's salt by no means a reliable substance for toning purposes, because sometimes it yields a "carbon red" tone and sometimes only poor brownish orange shades. This change in tone is probably due to a very slight and subtle difference in the silver deposit, of which difference I cannot trace the cause; for I can obtain no evidence to show that it is due either to difference in development treatment, or to chemical changes in the toning bath. As far as I can at present see, the chief determining factor is the actual condition of the paper. I certainly once obtained most excellent results on some decidedly old Eastman's Royal bromide.

It is only when we get a good carbon red tone in our silver thioantimonate that the results are worth anything. In this case, we can obtain any colour between carbon red and dark brown by using either Schlippe's salt alone, Schlippe's salt and sodium sulphide, or sodium sulphide alone.

In order to test what can be done in this way, I would advise anyone who wishes to try this method to tone five prints possessing good vigorous images one in each of the following baths, the first washing after Nos. 1 and 2 being in dilute ammonia solution:

(1.) Schlippe's salt ... ... 4½ grains
Water ... ... to 1 ounce

(2.) Schlippe's salt ... ... 4½ grains
Sodium sulphide ... ... ⅓ grain
Water ... ... to 1 ounce

(3.) Schlippe's salt ... ... 4½ grains
Sodium sulphide ... ... ⅔ grain
Water ... ... to 1 ounce

(4.) Schlippe's salt ... ... 4½ grains
Sodium sulphide ... ... 1 grain
Water ... ... to 1 ounce

(5.) Schlippe's salt ... ... 4½ grains
Sodium sulphide ... ... 1⅔ grains
Water ... ... to 1 ounce

And this is a bath that sometimes gives most beautiful sepia tones. The print after immersion in this bath can be washed directly in water.

Another bath that may be tried is:

Schlippe's salt ... ... 4½ grains
Ammonia solution (.880) ... 1 minim
Water ... ... to 1 ounce

It is also possible to tone a print with Schlippe's salt, and then to immerse directly in a solution of sodium sulphide of about one-third per cent. strength. By varying the time of immersion we get different tones.

Again, I have little doubt that sodium thioantimonite, sodium thioarsenite, and sodium thioarsenate could be used as constituting toning baths for a bleached print. I have not tried them, however, and I doubt whether they could be bought, but they would not be difficult to make.

Still, to me, it seems that the chief use of the indirect sulphuretting method is to obtain a good dark brown image, consisting of pure silver sulphide, and although I have indicated how it can be used for a greater diversity of tones, I do not think that this extension of the method will be very much employed, at least not until it can be put on a more certain basis.

There finally remains One Question to Answer.

"Why," I have seen it asked, "if you want coloured results, don't you use the carbon process?"

Well, in the first place, I do not see why the query should be confined to coloured prints. Black ones can be obtained by the carbon process. Certainly the carbon printing process, generally speaking, is the best process of all, as it gives a much finer artistic finish to a print than any other. However, especially for enlargements, the carbon process is more bother to carry out from one cause or another than the silver bromide emulsion one, and so it has not yet replaced it, and I do not think it ever will.

I am altogether opposed to doing anything to the silver image which will shorten its life in any way, but I have shown that sulphuretting has exactly the opposite effect. There are now an immense number of bromide enlargements done annually, and of these a very large number are toned brown. I am confident that if those now using the hypo-alum method will give the indirect method a fair trial, ninety-nine out of a hundred of them will find that they can obtain better results than they have been getting by their former proceedings, and they will all find it a much more simple and easy method to carry out than its older rival. Hardly any practice or experience is needed for working the indirect sulphuretting method to its full advantage.

FORTHCOMING EXHIBITIONS

SOCIETY.	OPENS.	ENTRIES CLOSE.	SECRETARY.
Coatbridge P.S.	October 17	—	The Secretary, Ailsa Cottage, Coatbridge, N.B.
Kettering C.I.	October 21	October 19	E. Claypole, 112, Hawthorn Road, Kettering.
Isle of Wight P.S.	October 21	October 13	J. H. Burgess, 53, Pyle Street, Newport, Isle of Wight.
Belfast Y.M.C.A.	October 28	October 14	D. J. Hogg, 3, Trinity Street, Belfast.
Ealing P.S.	October 28	October 19	H. A. Ball, Town Hall, Ealing.
Plymouth Industrial	November 4	October 24	Chas. A. Rowe, 2, Walnut Villas, Cockington, Torquay.
Frome M.I.	November 5	October 24	Bernard J. Mitchell, 3, Willow Vale, Frome, Somerset.
Edinburgh Industrial	November 5	October 17	A. T. Huchinson, 7, North St. Andrew Street, Edinburgh.
Hackney P.S.	November 11	October 26	Walter Selfe, 70, Paragon Road, Hackney, N.E.
Braintree and B.C.C.	—	October 30	W. P. Dreaper, Coggeshall Road, Braintree.
Friary Bazaar	—	October 31	H. Sharp, 105, Muster's Road, West Bridgford, Nottingham
Sheffield P.S	November 17	November 3	J. W Charlesworth, 1, Joshua Road, Sheffield.
Bishop Auckland P.S.	November 17	November 8	John Welsh, Salisbury Place, Bishop Auckland.
Sunderland P.S.	November 18	November 2	W. E. Kieffer, 1, Stirling Street, Sunderland.
Southsea P.S.	November 18	—	F. J. Mortimer, Pembroke Road, Portsmouth.
Tunstall	November 18	November 7	C. J. Eardsley, High Street, Tunstall, Staffs.
Edinburgh P.S.	November 21	November 7	J. S. McCulloch, W.S., 3a, North David Street, Edinburgh.
Berne International	November 25	—	Prof. Deichselt, 19, Bühlstrasse, Berne.
Glasgow E.A.P.S.	November 28	November 23	A Walker, 80, Garthland Drive, Dennistoun, Glasgow.
Hove P.S.	December 2	November 23	A. R. Sargeant, 55, The Drive, Hove.
Southampton P.S.	December 11	December 2	S. G. Kimber, Oakdene, Highfields, Southampton.
Chicago S.A.P.	December 29	December 15	Society of Amateur Photographers, The Art Institute, Chicago.
North West London P.S.	February 11	January 28	J. S. Fairfoull, 13, Addison Road, Walthamstow.
South London P.S.	March 5	February 20	W. C. Marshall, 41, Glendon Road, Lee, S.E.

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NOTICE TO CORRESPONDENTS

All letters, advertisements, etc., must reach the office on Friday morning to ensure being dealt with in the issue for the next week. In cases of great urgency, letters delivered up to the first post on Tuesday morning may be in time to receive attention, but this cannot be guaranteed.

Communications for the Editor should be addressed, The Editor of *Photography*, 3, St. Bride Street, London, E.C.

LEADER

Warm-toned Bromide Enlargements.

This week we are enabled to publish two articles, both by writers of no small scientific repute on their own topics, dealing with a process which is daily growing in popular favour—the sulphur toning of bromide prints. Dr. Baekeland discusses the hypo-alum method principally, and pronounces, as might have been expected from a knowledge of the nature of silver sulphide, in favour of its permanence; while Mr. Blake Smith describes a method of sulphur toning which is in several respects superior to the hypo-alum bath, although aiming at the same result.

This latter method we have had under trial ourselves for some months, and can speak very emphatically as to its general convenience and its good features. It is simple, speedy, and complete. When we say complete, we mean that if properly carried out there can be no doubt that the whole of the silver forming the image is converted into silver sulphide, which is a consummation to be sought for in all toning processes of this character. Moreover, the colour which it yields is definite, and does not vary from print to print, even when the brand of paper upon which the prints are made is changed, except, of course, when toned papers are used, when the colour of the groundwork of the paper itself enters into the question.

The colour, too, is an extremely pleasant one, being as nearly as possible that of the Autotype Co.'s warm sepia tissue; in fact, so perfect is the match that we have found that for spotting such prints no colour was so suitable as the warm sepia moist pigment supplied by that company in little pans for spotting purposes, and presumably made of pigment identical with that in the tissue itself. The match was a perfect one.

Those who have not yet tried the sulphur method of toning would do well to start upon Mr. Blake Smith's process, since it is hampered by few difficulties. It is, of course, most suitable for bromide enlargements on toned papers, and these should be fully dark if a rich result is aimed at. Any enlargements which have been slightly over-exposed, and which are in consequence too heavy, may be selected and toned forthwith. There is no need to dry them before toning, but the hypo should be well washed out, or spots will be troublesome.

The article on our first page sufficiently describes the method of toning. The first result is to turn the print dark-blue all over. (It is apparently black, so deep is the tone.) Five minutes is none too long for this bath, as it is important that the iodine should change the whole of the silver to iodide. The appearance of the print is then a negative one, the shadows being yellowish-white, and the high lights almost black. The print is then put straight into the five per cent. sulphite solution, which soon removes the blackness. With some papers this bath makes them look very spotty and greasy at first, and the action of the sulphite must be continued until all this spottiness has gone, and the print is to all appearances a plain piece of white paper.

The image at this stage may possibly show as a grey deposit in the deepest shadows. If it does this is a sign that the action of the iodine has not been allowed to continue long enough, and it must be rinsed and put back for as long again, after which it is once more treated with sulphite, and then transferred without washing to the sulphide in which it takes on its final tone. Further washing completes the process.

The only objection, so far as we are aware, is the odour of the sulphide solution, which certainly recalls sulphuretted hydrogen, but is nothing like so intense. The sulphide is less offensive, however, than any sulphuretting agent, except hypo-alum, that we know, and the odour soon goes off.

Spirit of the Times

OF ILFORD, LTD., AND OF A FAST PLATE.

At the shareholders' meeting last week there could be no doubt that the feeling of the great body of the shareholders was strongly in sympathy with the committee, as indeed the carrying of its recommendations—in some cases unanimously and in most cases by an overwhelming majority—sufficiently indicated. It is to be hoped that the company is now sailing towards quiet waters again, so that those who are responsible for its management may be able to devote their energies once more to the conduct and the development of the business. Financially, the company has always been managed on the very soundest of lines, and although its business of late years has shown no marked advance in extent or in profit yielding, it has held its own in spite of some unfavourable influences. One of these undoubtedly was the absence of a really high-speed plate, as modern plates go. This has been removed now by the introduction of the "Monarch," which is winning golden opinions from all who want the most rapid plate obtainable and can appreciate it when they get it. The "Ilford Ordinary," we remember one of its admirers saying, "should be called the Ilford Extraordinary"; but the latter term might well be reserved for the "Monarch," which for extreme rapidity, coupled with cleanliness of working and beautiful gradation, is simply all that the most captious can require. We have used a good many dozen during the past season, with the result that our opinion rose with each packet we developed. With such a commodity business should be both got and kept.

* * *

PHOTOGRAPHIC COPYRIGHT.

At the annual meeting of the Photographic Copyright Union last week—the ninth, by the way—a member expressed his regret that, while there were many photographers who were perfectly in sympathy with the objects of the Union, who acknowledged that they had benefited by it, they were debarred from one reason or another from joining it; and he suggested that it should be stated that the Union was prepared to receive contributions from those who were willing to help it, who were precluded from joining. We believe that, like most bodies serving useful purposes of such a character, the Union is both ready and willing for support of this character; but we must confess that we should prefer to see its constitution so settled as should remove the difficulties of those photographers in question, and allow them to become members. We believe it could be done without in any real way affecting the question of the half-guinea minimum fee, which, with most, is the trouble. While half a guinea for casual reproductions is little enough to charge, there are circumstances in many places which allow a very remunerative business to be carried on for much less, and it seems a pity that those who are so situated should be cut off, as it were. Perhaps the committee will take the matter into consideration; in the meantime we would suggest to any of our readers who are tempted to part with their photographs for publication, if they do not already know of the aims and methods of the Union, that they should drop a line to its secretary at 23, Soho Square, London, W., for particulars; and if they follow this up by becoming candidates for membership they will be doing a wise thing.

* * *

THE NEW COPYRIGHT BILL.

At the meeting we have just referred to, the President, Mr. Frank Bishop, told the members that at the present moment there were three copyright bills in print, although he did not think that any of them would be likely to become law. There is another one, however, which is being drawn up under the auspices of the Artistic Copyright Society, and this is nearly finished. This bill will be powerfully backed, and so there may be a chance of it passing. It is not yet printed, but Mr. Bishop told his hearers that he did not think photography was treated badly in it, and gave the following summary of its scope: Photographic copyright is to be for thirty years, and registration will be done away with entirely. This should be a great benefit to photographers. As there will be no registration, and as the copyright is for a term of years, there must be some means of identification of the producer of copyrights, and also the date of production, and it is therefore proposed that each copyright photograph shall be stamped with name of the producer, and with the year in which it is produced. The other part of the bill, so far as it affects photographers, deals with infringements and the penalties therefor, and as on this subject Mr. Bishop said he thought it would not be found to be deficient for protective purposes, the bill may be said, from the photographic point of view, to be a vast improvement on the one which it was attempted to force through Parliament a few years ago. The attempt, as our readers know, failed, more from the incapacity of Parliament to carry out any business efficiently than from any true recognition of the bill's weakness; although this was pretty well shown by the efforts of the Copyright Union itself and of others.

* * *

THE BOYCOTT THAT FAILED.

The Missing Links are hardly missed,
The Salon show is poor,
The Royal's reached a height to which
It never rose before.
Even the doubting Thomas is
Less sceptic than of yore,
Hector has ceased from hectoring,
And Hinton hints no more.   X.

* * *

NUMBER FOUR OF "CAMERA WORK."

The high reputation which the quarterly publication managed by Mr. Stieglitz has achieved is well borne out by the fourth number just to hand. It deals with the work of a British photographer, Mr. F. H. Evans, and the editor thinks it needful to put in an apology for the illustrations which were printed, and not well printed, in this country. It is a little unfortunate that this should have happened the first time the work was done abroad, and to many the reproductions of Mr. Evans's fine architectural work will seem all that can be desired; but, judged from the high standard Mr. Stieglitz has set for himself in the past, and from our own personal knowledge of the beauty of the originals, there is no doubt these are not quite what they might be. It is gratifying to know that Mr. Evans has elected to be represented by his architectural work rather than by the figure subjects which he sends to the Salon this year; but we should have preferred the "appreciation" of him to have been from a photographic standpoint rather than a mere literary firework from the pen of Mr. Bernard Shaw, who has still to show that he is entitled to speak of photographs with authority. His contribution at least is amusing as a picture of Mr. Evans in his bookselling days, and is perhaps more readable than if it were more germane to the subject of the periodical. A fine picture by Mr. Stieglitz himself, in which he shows what can be made æsthetically of the much decried "Flat Iron Building" helps to make the book noteworthy.

* * *

DIAMONDS AND VIOLET LIGHT.

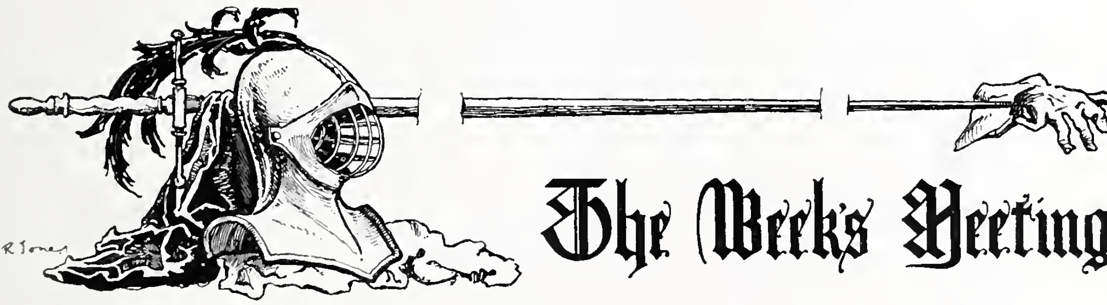
At a recent meeting of the *Académie des Sciences*, M. Chaumet went into the subject of the action of light upon precious stones, and gave some of the views of M. Mascart, who has devoted much time to investigation in this direction. The fluorescence which violet light excites in the diamond is already well known, and the author has observed an intimate connection between this property and the nature of the light which the diamond manifests to artificial light, especially candle illumination, this latter being the best by which to determine the qualities of stones "of the first water." Non-fluorescent stones when examined in violet light simply seem violet coloured, but the more luminous species affect a remarkable fluorescence. One very curious thing observed by M. Mascart with yellow diamonds is that violet light, instead of producing fluorescence, causes the stones to appear of a red colour, and after some minutes subjection to violet rays the colour appears to change to brown. In ordinary light this tint is retained for nearly twenty-four hours, but meantime the stones will have lost four-fifths of their commercial value. Tests of fluorescence enable one to discriminate between stones of different commercial value not only with diamonds, but with such gems as Indian rubies, those coming from various parts varying considerably in price.

* * *

WHAT A GOOD NEGATIVE SHOULD LOOK LIKE.

Visitors to the Royal Photographic Society's Exhibition know the little octagonal structure with a light inside, by means of which Messrs. Wellington and Ward show what admirable negatives can be made upon their roll film. Like all that enterprising firm's advertisements, the idea is an excellent one, since it does not merely tell of the film to those who may happen to look at it, but forces itself upon the attention. This fact was made very obvious to us the other day as we stood for a little while near the exhibit, and it is not too much to say that fully fifty per cent. of the visitors turned to that particular stand and had brought home to them, to their edification, what a good negative should look like. It was quite clear that many of the photographers going there had never actually realised the kind of thing in negatives that they ought to aim at, and that they therefore were keen to take advantage of the opportunity that offered. It was safe to assume that they were first-rate ones, or they would not be shown in such a place where they were exposed to general criticism, and it was a chance not to be missed. Such, no doubt, was what attracted many who looked at them, and in thus showing the kind of negative to be striven after, Messrs. Wellington and Ward do a very real service to many who look at their exhibit. If they gain for themselves a good advertisement at the same time, who can blame them?

THE USE OF MANNA SUGAR instead of grape sugar has been suggested for the dusting-on process, according to the *Allgemeine Phot. Zeitung*. It is stated to give very much better results, and the pictures will be found to be quite free from the fogginess which often characterises prints made in the present way. Mannitose varies slightly in chemical structure from the grape sugar, but it is not easy to find a reason for its better adaptability to the process.



The Week's Meetings

THURSDAY, OCTOBER 8TH.

Glasgow Eastern. President's Address. Slides.
N.W. London. Holiday Reminiscences. H. S Date and J. S. Fairfoull.
Liverpool A. Smoking Concert.
Handsworth. A Photographic Dry Plate Box. M. H. Gething.
London & Provincial. Ozotype. T. Manly.
Hull. The Carbon Process (Elementary). W. S. Parrish.

FRIDAY, OCTOBER 9TH.

East Liverpool. Reduction. — Drysdale.
Leicester Lit. & Phil. Geographical Photography. A. H. Dunning.
Croydon Nat. Lens Making. Taylor, Taylor, and Hobson.

SATURDAY, OCTOBER 10TH.

EXCURSIONS.

Everton. Half-day Outing.
South London. Crayford and Dartford Heath.

MONDAY, OCTOBER 12TH.

Attercliffe. Developers. Messrs. Ellis, Driver, Walton, and Birtles.
South London. Cameras and Apparatus. H. C. Beckett.
Oxford. Exhibition of Members' Slides.
Ilford. Photography at the Zoological Gardens. W. H. Wilshere.
Birmingham. Annual General Meeting.
Bradford. Members' Slides.
Southampton. Hand Camera Photography. E. F. Wallis.
Halifax. Plain *versus* Coloured Slides. W. Bagshaw.
Ulster. President's Address. The Rajar Changer.

TUESDAY, OCTOBER 13TH

Thornton Heath. Gum-bichromate Process. G. L'Epine Smith.
Hackney. Excursion Prints Competition.
Goldsmiths' Institute. Open Night.

TUESDAY, OCTOBER 13TH *(continued)*.

Chiswick. Majorca, G. E. Thompson. Lantern Plates, W. E. Walker.
Handsworth. Council Meeting.

WEDNESDAY, OCTOBER 14TH

Everton. Half-day Outing
North Middlesex. Portraiture by Artificial Light. F. M. Ainsley.
Croydon C C. How to Make Lantern Slides. A. E. Isaac.
Glossop Y.M.C.A. Developers and Development.
Borough Poly. Lens Making. Taylor, Taylor, and Hobson.
Leeds C.C. Portraiture. C. H. Hewitt.

THURSDAY, OCTOBER 15TH.

Glasgow Eastern. Mounts and Mounting. J. W. Eadie.
N.W. London Carbon Demonstration. Wellington & Ward.
Liverpool A. Improving Faulty Negatives. F. F. Anyon.
Handsworth. The Rajar Changer G. E. Rushworth. Discussion on Modification of Prints. S. P. Proctor.
L. & P. Henderson Award Meeting.
Ashton-under-Lyne. Mounts: How to Select for Framing. W. Chadwick.
Hull. Enlarging Rev. C. O. Stewart.
Batley. Plain *versus* Coloured Slides W. Bagshaw.
Ealing. Annual General Meeting.
Chelsea. Coxin. W. F. Slater.
Rodley, Farsley, and Caverley District. Flashlight. B. O. Pearson.

FRIDAY, OCTOBER 16TH.

Croydon Nat. Trade Demonstration. W. F. Slater.

SATURDAY, OCTOBER 17TH

EXCURSION.

Hackney. Outing to St. Paul's Cray

Societies will have their meetings announced here if the syllabus is sent to us at the beginning of the Session, or from time to time

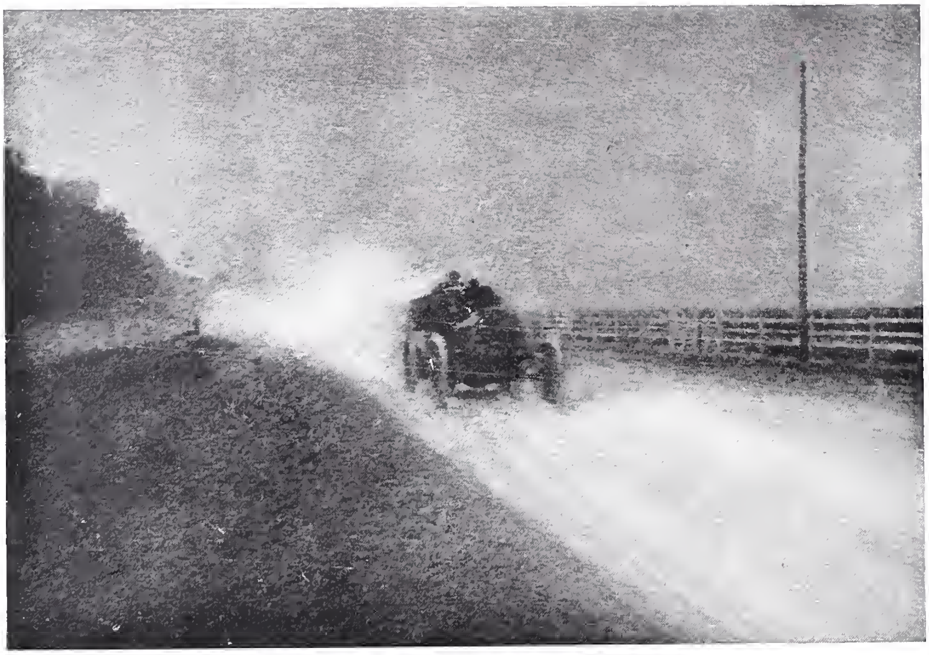
PICTURES FROM THE TWO EXHIBITIONS

THE ROYAL PHOTOGRAPHIC SOCIETY & THE SALON

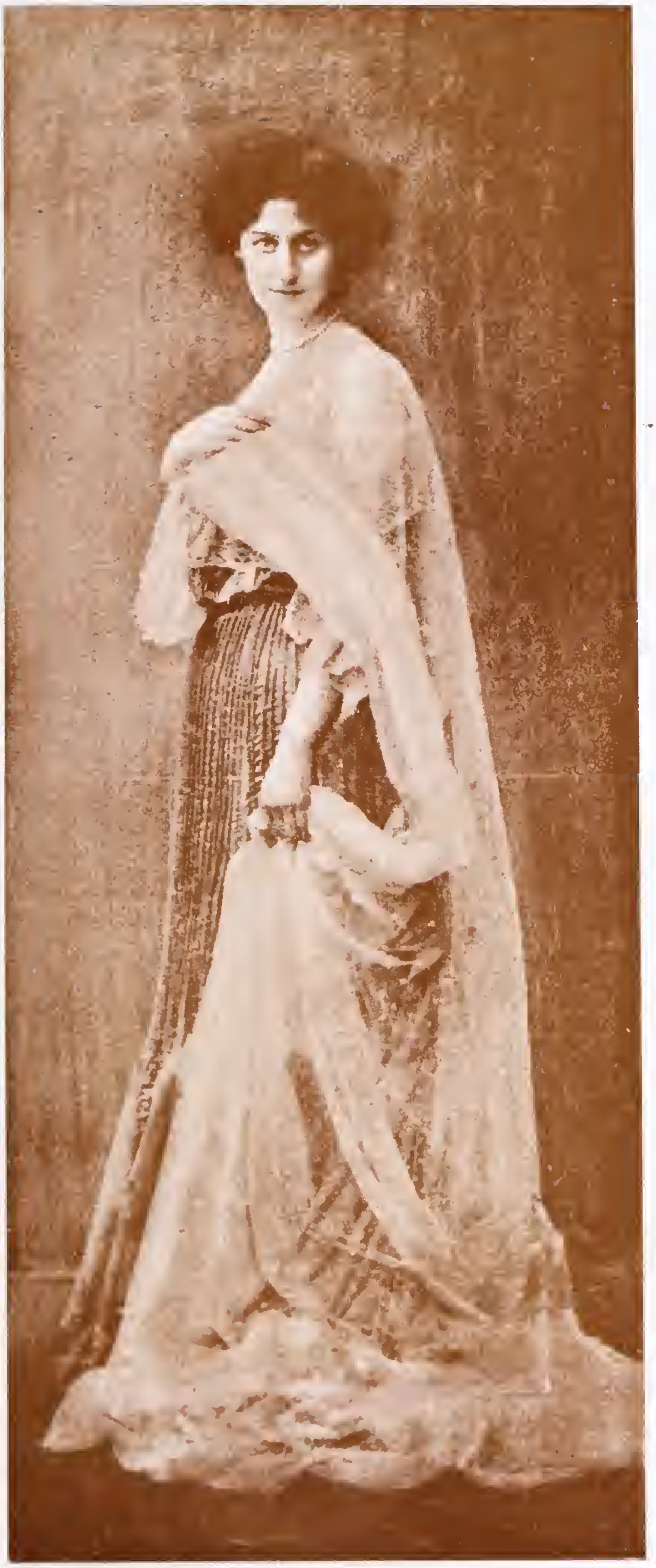
The pictures which, by the courtesy of the exhibitors, we reproduce this week are:

11.—Speed. By Robert Demachy. (No. 55, Salon, 8in. x 6in., £4 4s.)
12.—Portrait of a Lady. By David Blount. (No. 252, Salon.)
13.—The Musical Box. By Miss Catherine Edmonds. (No. 132, R.P.S., Invitation Section.)
14.—A Foot-track after Rain. By Charles Job. (No. 48, Salon, 14in. x 10in., £1 10s.)
15.—Portrait, Mdlle. de M. By Mdlle. C. Laguarde. (No. 40, Salon.)

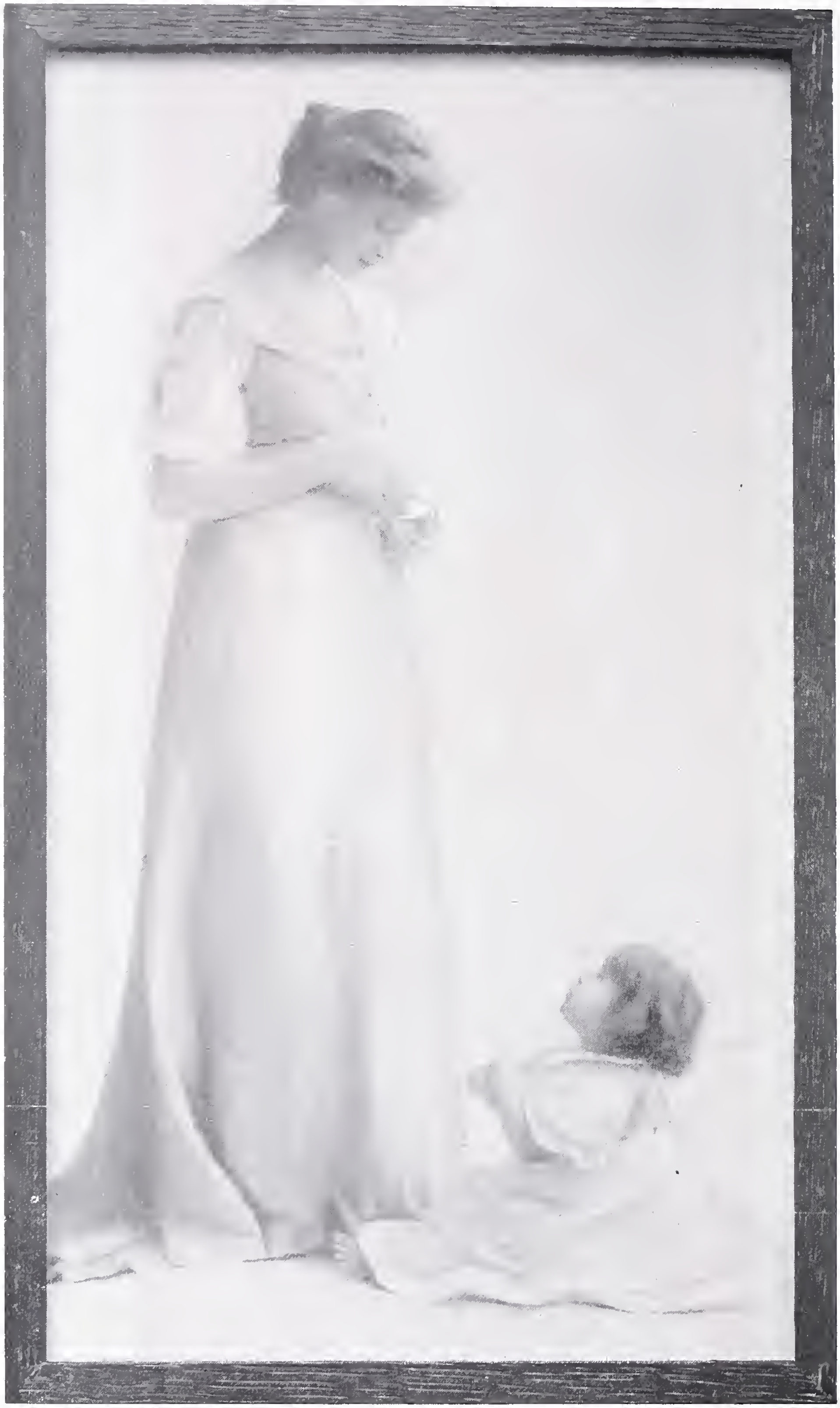
When a price is given it is for the framed picture, the sizes being the dimensions of the print, excluding frame and mount. Intending purchasers should communicate with the Secretary of the R.P.S., New Gallery, Regent Street, London, W.; or with the Secretary of the Photographic Salon, Dudley Gallery, Piccadilly, London, W., as the case may be.



Speed. By Robert Demachy.



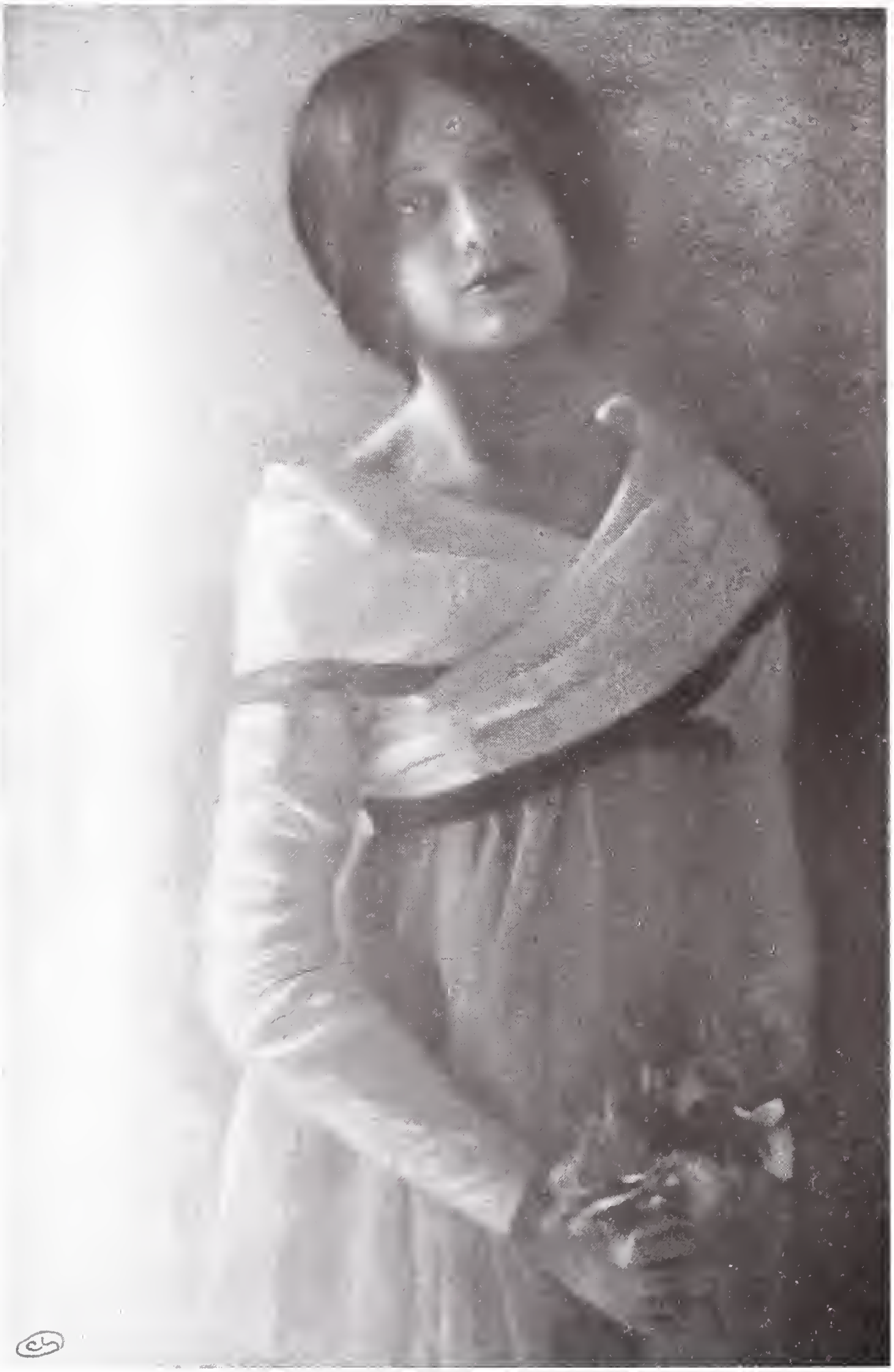
PORTRAIT OF A LADY BY DAVID BLOUNT



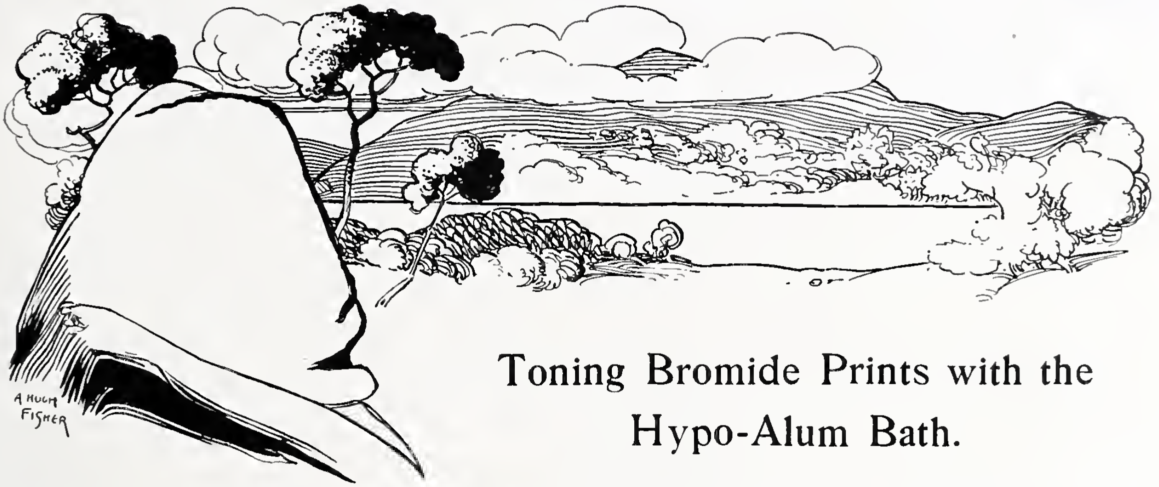
The Musical Box. By Miss Catherine Edmonds.

A FOOT TRACK AFTER RAIN

BY CHARLES JOB.



PORTRAIT. MDLLE. DE M. BY MDLLE. C. LAGUARDE.



Toning Bromide Prints with the Hypo-Alum Bath.

An important paper, of which we print a summary below, has been read by Dr. Leo Baekeland before the Congress of Applied Chemistry at Berlin. Dr. Baekeland is a recognised authority upon the chemistry of photography, and it is to him that the gaslight or slow bromide papers owe a great deal of their popularity. His paper not only gives directions for toning with hypo-alum, but explains the causes of irregularities in its action when enough care is not taken to secure uniformity in its use.

THOSE who have used this form of toning bath know that if a solution of alum be added to a solution of hypo, the two salts act on each other, and the visible result is the formation of a milk-white liquid. At a very low temperature the mixture may remain clear for some time, but an insoluble product will appear afterwards, according to the condition of concentration and temperature of the solution. The process is an excellent example of a very slow chemical reaction. At ordinary temperatures, if this liquid mixture is left to itself, it will keep on precipitating for months in succession. In some experiments I filtered the liquid after ten weeks' standing, and obtained this way a very clear liquid; yet after another week it had again turned slightly milky, showing that the final result of the reaction was not attained.

The reaction can be hastened considerably by heating the mixture. The precipitate obtained this way is composed of aluminium hydrate and sulphur. The analytical results of the same have been given by Detaille as follows:

Water	34.00
Alumina	28.00
Sulphur	38.00
	100.00

My own experiments have shown me that the composition of this precipitate will vary according to temperature, and also according to the time which has elapsed after the mixture was made. The precipitate which forms first contains more alumina and less sulphur than the one which deposits later, which is mainly composed of sulphur. By dissolving two parts of alum and ten parts of hypo in fifty parts of water at ordinary temperature, and by collecting the deposits, after one week, drying it at 212° Fahr. until constant weight I found the following percentage composition:

Water	22.20
Alumina	17.42
Sulphur	60.38

Six weeks later the new precipitate analysed gave—

Water	3.68
Alumina	0.96
Sulphur	95.36

The toning action of this mixture can be looked upon as a process of slow sulphurisation under the influence of nascent sulphur. This action is easily shown by putting into the liquid a polished silver plate. The colour of its surface will slowly change to yellow, then brown, then purplish brown, and finally black. On the other hand, if a mixture of hypo and alum has been submitted to a thorough boiling and then filtered, it will have no further action on silver, which shows conclusively that the effect is due to liberated sulphur.

Mixtures of hypo and alum act in a different way on different kinds of silver prints. The silver image produced by development on a bromide or a chloride paper is in an entirely different chemical condition from the so-called silver image in a printing-out paper. If we examine a bromide print under the microscope, we find that it is composed of a multitude of little silver particles, distinct in shape, and of measurable size. If we examine under the same magnifying power the image of a printing-out paper, we fail to see such silver particles. The whole image seems to appear more as a homogeneous transparent mass. There are good reasons for believing that in a printing-out paper the so-called silver image is nothing more than a darkened organic silver compound, containing more or less of the silver haloids.

Whether the solution of hypo resolves these compounds into other ones soluble in this chemical and leaves a pure metallic silver image is a question the discussion of which does not enter within the scope of this article. It may be that the image, which is left after a printing-out paper has been treated with a fixing bath without toning, is either composed of complex organic haloid silver compounds, or of silver in some allotropic state, characterised by chemical instability or a tendency to enter into action with various other chemicals.

In a printing-out paper the so-called silver image has so little resisting power that the combined action of water and air will affect it. Thus, as is well known, such silver prints are acted upon by water and bleach out if left too long in the washing tank. By sulphurisation such an image is made still less resisting, and more liable to further alteration or fading.

It is quite possible that the sulphurised image of a printing-out paper is not pure silver sulphide, but an organic sulphur compound of silver, more apt to change than pure silver sulphide would be under the same conditions. In fact, we know that silver sulphide stands the action of ordinary chemical agents relatively well.

With developing papers the action of the hypo-alum bath varies considerably according to the particular nature of the silver deposit. For instance, such prints as are made with "quick" bromide emulsions, which have generally coarse particles of silver, tone very slowly, and with much difficulty. "Slower" emulsions, on the contrary, give prints in which the grain of silver is smaller, prints which can be toned much easier. The size of the silver granulation of which the image is formed has a direct influence on the ease of toning. The smaller the particles, the quicker sulphurisation will proceed.

All gaslight developing papers, of which the basis is silver chloride, give images which tone in hypo-alum, and this much quicker and easier than bromide papers. Here again we can attribute this fact to the finely-divided condition of silver in the image in these prints.

In any of these papers, when well prepared, the size of the silver chloride particles is much smaller than that in silver bromide emulsions. During the whole process of manufacture of these chloride emulsions the production of larger particles of silver chloride is systematically avoided, and the most successful of this class of papers contains a considerable quantity of silver chloride in an unprecipitated state, which I might call colloidal silver chloride. The natural result is that the developer precipitates the silver in extremely small particles.

With developing papers of this class it is possible, by properly increasing the time of printing and restraining the developer so as to bring out the image very slowly, to obtain an image which, instead of having the ordinary black colour of precipitated silver, shows an entirely different range of tones, varying from the brightest yellow or red to a beautiful blue purple. These brightly coloured developed prints are very unstable. They can be fixed in hypo, but will undergo profound changes under the action of almost any chemical agent. That is the reason why they tone so easily in hypo-alum toning baths. When a bromide print has been over-exposed and is developed with a weak developer, or one containing much restrainer, the resulting prints, instead of having a blue or grey-black appearance, have a decided greenish tone. Such greenish-looking prints also tone much easier in hypo-alum than if they had been obtained in the normal way.

On the Question of Permanence

it may be said emphatically that, basing ourselves on practical experience and theoretical considerations, *printing-out papers* toned with hypo-alum or any other sulphur toning mixture only possess very fleeting images. With bromide prints, on the contrary, with their dense deposits of relatively large particles of silver, the danger of fading is very remote. Here the transformation into compact and chemically inert silver sulphide seems to be complete; and such sulphur-toned bromide prints have kept unchanged, under adverse conditions, for periods extending over ten years. Whether such prints will keep indefinitely is a question which cannot be answered positively, except by future experience. With papers of the velox class, the results depend greatly on the conditions under which they are made. My experience shows that sulphur-toned prints, obtained after restrained development, so as to obtain warm tones, may give beautiful results, but such prints will fade afterwards. Velox prints, which were developed under normal conditions, with a strong developer so as to produce metallic silver in the black and stable condition and sulphur toned afterwards, have given more permanent results. Some such prints, which I have had in my possession for six years, have not yet changed, but it is doubtful whether they will keep as well as sulphur-toned bromide prints.

It would be wrong, however, to generalise much on these questions. The permanence of any print produced by any chemical process will always depend to a large extent on the way the process is carried out. Furthermore, the density of the deposit, which makes the strength of the print, plays a large part in the question of the future permanence of the print for the same reason that a thick coat of paint will withstand atmospheric influences better than a thin one.

The Practical Way of using the Hypo-alum Bath.

It may be used either directly after the prints are taken out of the fixing bath or any time thereafter. It can be applied to prints which have been dried for some months. The strength of the bath may vary according to particular conditions, but the following will answer the purpose:

Water	10 ounces
Hypo	2 ounces
Alum	200 grains

It is preferable to use lukewarm water. The hypo is added to the water first, and then the alum, while stirring, until everything is dissolved. This will give a milk-white liquid, which should be used as it is without filtering. The bath should stand for one or two days, as fresh baths do not work well; it must be strengthened from time to time by adding new. An old bath should not be thrown away entirely, but replenished with new in the manner stated above. The quickest results are obtained by preparing the bath as hot as the gelatine film will stand, say from 130° to 140° Fahr. In this bath bromide prints will tone in less than thirty minutes, and prints of the velox class much quicker. A cold bath will also tone, although very slowly, and the process may then take several days. The best results I ever saw were obtained by toning slowly in a bath at about 90° Fahr.

In some large bromide print plants a special room is used for this purpose, so that its temperature can be kept about 90° Fahr, and the prints are left in the toning dish for one or two days.

Until a new hypo-alum bath has been used several times it has a marked tendency to bleach the prints and to dissolve the half-tones. It is a known fact also, that as soon as the hypo-alum bath contains a certain amount of dissolved silver it works better. This is the reason why new baths are improved by leaving waste prints in them. The same result can be obtained by adding some drops of silver nitrate solution. The addition of a small quantity of some lead salt acts in the same way. But both metals, and especially lead, may prove very detrimental to the whites of the prints.

The Danger of Over-worked Toning Baths.

Carefully conducted tests have shown me that as soon as too large a proportion of silver accumulates in the hypo-alum solution, any prints which go through such a solution absorb into the gelatine of their film a certain amount of what I might call "retained silver," which it is impossible to remove afterwards, even by two days continuous washing in water. By the term "retained silver" I refer to an unknown insoluble compound, which is uniformly distributed through the gelatine film, in the whites, as well as the blacks of the image, and which is produced under these conditions. It is entirely independent of and distinct from the metallic silver in the silver image. I cannot decide whether the double silver and sodium thiosulphate has anything to do with the matter, or whether we have to deal here with a case of so-called solid solution, much in the same way that certain soluble dyes are fixed and retained in certain organic fibres, and thus become insoluble. One of the peculiarities of "retained silver" is that neither washing nor extra fixing in fresh hypo will remove it.

Any "retained silver" may be easily detected after the print is washed and dried, by touching the surface of the film with a drop of ammonium sulphide on the white portion of the image. If any "retained silver" is present, instant darkening will occur wherever the ammonium sulphide has touched the surface. This darkness gives us a hint as to the liability of future changes in the print, because the same effect will be produced in time on the entire surface of the print, after it has been exposed long enough to the action of the sulphur compound always present in the atmosphere.

"Retained silver" has an extremely sweet taste, which, after a few seconds, becomes very disagreeable when large quantities of it are present. This last peculiar taste is very different from the taste of sodium thiosulphate.

Correspondence

For the free discussion of all matters of general interest to Photographers

The Editor is not responsible for the opinions of his correspondents.

"THE 'HUMDRUM' SALON."

Sir,—The first movement towards success in pictorial photography seems to me to become evident, when we recognise the limitations of our craft, and to leap beyond these bounds can only mean failure. Run over in your mind the various ways in which we are limited, and you will almost go so far as to think of the old cry "Stagnation"—although I myself think we are surely if slowly advancing. We cannot with much success depict scenes that are non-existing, as the painter can, contrive as we will to make our models act—stage as we will our pictures, the sundry limitations of our craft will always betray this limitation. The painter's manner of expression—"illusion" of colour—we are denied, and must rest content to work in monochrome, which, of course, is a great loss. Now for all this we are progressing, as I have previously said, surely but slowly, and this year's Salon demonstrates the modification of the extremist—the lack of the highly eccentric, a more thoughtful, thorough knowledge of tone, composition, and the like; regarding these qualities of more importance than perhaps some of its forerunners. The extremist is often only the pioneer, who supplies the raw material in photography.

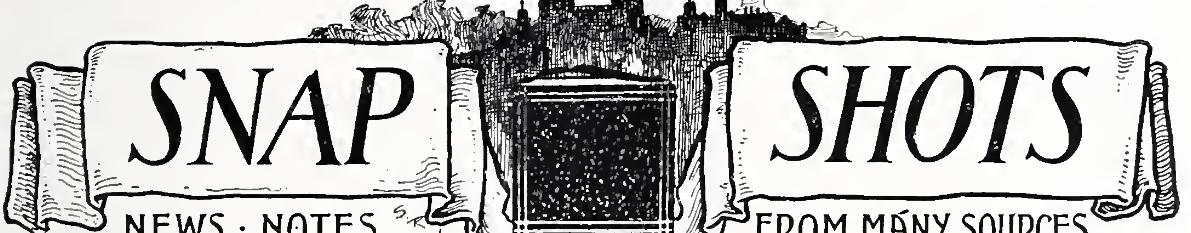
I am afraid your paragraph in reference to the Salon under the heading of "Spirit of the Times," in your issue of last week (although it may have been written as a progressive idea), may be misconducted by the average reader. However, I am writing this as a personal expression of my opinion, not as a member of the Linked Ring, and I have been wondering from much that I have seen in the photographic press in reference to the Salon as a whole, whether it is the strange subject that interests, rather than the "handling" or rendering of same. I am inclined to think that it must be the grotesque or gruesome that demands favour, or is it not the inexplicable, unfathomable, or affectedly mysterious? If progress is assured, if we are only eccentric, then I should say success is simple, and the pictorial worker has only to find some subject essentially out of the common, treat it in an unusual way, and fame is at once attained. Happily, such is not the case, other qualities than these being demanded. Contrast the Salon with the Royal Academy, do we expect on the opening day of the latter each year to find this exhibition entirely ahead of the previous one?

Certainly not. We do not expect rocket-like reputations made each year—in fact, we do not expect them at all. There are men who exhibit almost regularly every year at the Royal Academy—doubtless there is a sameness about their work, but can we expect these men to spring upon us each year something to cause "excitement," as a contemporary puts it in referring to the Salon. At the same time we *do* not expect the Royal Academy to maintain its position only, but to advance, which it doubtless does. The Salon seems to me to be in the same position exactly, only, as I have said before, it is more limited in its scope.

The criticism of the personal exhibits by *Photography* I do not doubt is highly educational, but to set down the Salon as "humdrum" merely because it contains nothing that is exciting, startling, or atrocious, seems to me rather curious. On going over many of the works exhibited at the Dudley Gallery this year, I cannot help feeling through them the earnestness and thoroughness of the worker, and although the exhibition may contain little of the "novel" or extraordinary, it is none the worse for that, and I should say on the contrary the better for it.

Yours, etc.,
DAVID BLOUNT.

[We called the Salon "humdrum" not so much for the reasons attributed to us in Mr. Blount's letter, but rather because, as he himself infers, it is made up of the works of the same men year in year out. This is the defect of the Royal Academy in the eyes of most people; and Mr. Blount, it will be noticed, regards the Salon as, save for its limited scope, "in the same position exactly." ED.]



SNAP SHOTS

NEWS · NOTES FROM MANY SOURCES.

The annual general meeting of the Chelsea Society was held on the 1st inst.

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Photographs of India figure largely in the price list which we have received from Messrs. Chatterjee Bros., of Khalia, Bengal.

× × × ×

At the annual meeting of the Plymouth Photographic Society, it was decided to hold an exhibition in April or May, in which special medals will be offered for competition. Mr. F. Johnson was elected president, and the honorary secretary, Mr. Wilfred Grist, of 105, Old Town Street, Plymouth, was re-elected.

× × × ×

The annual meeting of the Borough Polytechnic Society was held on the 23rd ult., when the report showed the society to be in a most flourishing condition. The following officers were elected: President, F. W. Gregg; vice-president, A. M. Usher; treasurer, Geo. Fisher; lanternist, J. St. Coysh; librarian, Miss L. G. Bush; honorary assistant secretary, J. R. Bedford; honorary secretary, P. C. Cornford, 103, Borough Road. Committee: F. W. Bannister, A. Bedding, E. R. Bull, E. W. Burch, G. W. Francis, W. Page, and G. Wynne.

The Southampton Camera Club has issued to its members a combined syllabus and exposure notebook.

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The exhibition of the Cripplegate Photographic Society will be open from February 29th to March 3rd. Entry forms will be ready shortly.

× × × ×

The headquarters of the Leeds Camera Club have been removed to the "Athenæum," 9, Park Lane. The address of the honorary secretary, Mr. F. G. Issott, is 62, Compton Road, Harehills, Leeds. The club's syllabus and notebook will be found a handy pocket companion by the members.

× × × ×

The "Unique" folding Christmas motto mounts brought out in good time for the approaching season by W. Tylar, of 41, High Street, Aston, Birmingham, have been designed in admirable taste. They are in white cream and quiet greys, with relief lettering in gold. Twelve cards with envelopes in a box at 1s. 6d. should tempt the most remiss of workers to prepare prints as Christmas greetings to his friends. Mr. Tylar desires to make it known that he will forward the box post free for 1s. 8d.

SNAP SHOTS.

THE EXHIBITION of the Brentford Photographic Society will be held on March 15th, 16th, and 17th. The exhibition secretary is Frank H. Read, Ferndale, Clifton Road, Brentford.

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THE WINTER SESSION of the Hull Society started on the 1st inst. with an address from the president, followed by a smoking concert.

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AT THE ANNUAL MEETING of the Leigh Photographic Society Mr. H. W. Coupe, of 69, The Avenue, Leigh, was elected honorary secretary.

× × × ×

THE LAST DATE for entries in the Kodak Amateur Competition, in which prizes to the amount of £1,000 are offered, is postponed to June 30th next year to enable foreign and colonial workers to compete.

× × × ×

AT THE FORTHCOMING EXHIBITION of the Brechin Photographic Society in March, the champion class will be abolished, the number of classes will be kept as low as possible, a class restricted to associates of the Scottish Federation will be instituted, and a prize offered for the best collective exhibit from a federated society. The society holds beginners' meetings, and has a circulating portfolio.

× × × ×

THREE LECTURES at the disposal of photographic societies are lent by C. P. Goerz, of 4 and 5, Holborn Circus, London, E.C., entitled respectively "The Photographic Lens," "What can be done with a Hand Camera," and "How a Lens is made."

× × × ×

THE HULL PHOTOGRAPHIC SOCIETY, one of the largest if not actually the largest in Yorkshire, sends us its rules, which we note provide for the management of its real property, an asset with which few photographic societies are blessed.

× × × ×

THE BURNLEY CAMERA CLUB'S EXHIBITION will be open from the 1st to the 23rd of January.

× × × ×

AMONGST THE NEW COMPANIES registered is James A. Sinclair and Co., Ltd., with a capital of £10,000 in £1 shares.

The Photographic Copyright Union.

THE ninth annual meeting was held at the house of the Royal Photographic Society on Sept. 30th, the president, Mr. Frank Bishop, in the chair.

Mr. W. Grove and Mr. W. E. Downey were the two members of the committee who retire by rotation according to the rules, and were re-elected unanimously. Mr. Alfred Ellis was elected vice-president of the Union in the place of the late Mr. Joseph J. Elliott.

After an address by the president, in which he gave some indication of the extent and diversity of the questions with which the officers of the society had to deal, and a short discussion, the honorary auditors, Mr. Lyd. Sawyer and Mr. Martin Jacolette, were thanked for their services during the past year, and were unanimously re-elected for the current year.

The following specifications of patents relating to photography have been published, and copies may be purchased at an uniform price of 8d., at the Patent Office, Sale Branch, 25, Southampton Buildings, London, W.C. The price of the specifications includes postage to any part of the United Kingdom. The additional postage to foreign countries is usually ½d. per specification. Postage stamps must not be sent on payment of any amount exceeding 11d. In ordering the name of the patentee and both the number and year of the patent must be given.

1902.

19,917.—Wallis. Shutters.
20,258.—Schulze. Screen for photo-mechanical reproduction.
21,382.—Glascodine. Cameras.
24,234.—Shepherd and Bartlett. Printing.
25,243.—Sandell Films and Plates, Ltd. Films.
25,244.—Starnes. Printing.

1903.

10,892.—Thom. View finder and camera stay.
14,415.—Emil Wünsche, Ltd. Curtain shutters.
17,722.—Walther. Plate, film, or print washing apparatus.

Ilford Ltd. Shareholders' Meeting.

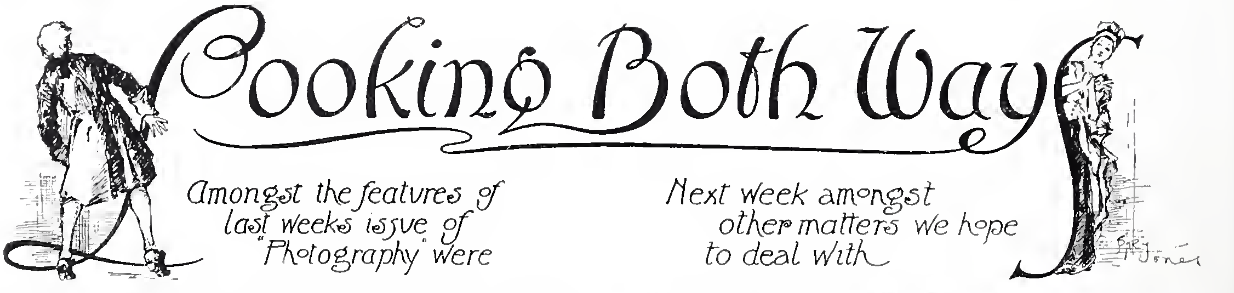
THE extraordinary meeting of the shareholders in Ilford, Ltd., called to consider the report of the committee, which has already been published in our columns, was duly held on Tuesday in last week at Winchester House, the great hall of which was crowded. The recommendations of the committee were agreed to without exception by large majorities.

Amongst the speakers was the Earl of Crawford, who referred to American competition as a thing that had to be faced in other industries besides the photographic.

The Photographic School in Manchester.

THE syllabus of the forthcoming session of the photographic and printing crafts department of the Manchester Municipal School remind us that in its director, Mr. Charles W. Gamble, Manchester has been fortunate enough to secure one of the most capable instructors in photography and its applications to printing that we have in this country.

In addition to the ordinary particulars which it is the mission of the prospectus to convey, we note particularly a class for "photography for engineers"—a departure we do not recollect having noticed before in any such institution. These lectures are intended for civil and mechanical engineers, and deal with the photographs of works in progress and the preparation of prints such as are required for reports and records. The fees at the school are low, and in all classes the apparatus is provided by the institution, the student in practical work having to pay a small fee to cover the cost of materials actually consumed.


Looking Both Ways
Amongst the features of last weeks issue of "Photography" were
Next week amongst other matters we hope to deal with

An illustrated criticism of the pictorial, loan, professional, and trade sections of the Royal Photographic Society's Exhibition.

An article by E. Senior upon the distribution of the image in a Cristoid film; illustrated with photomicrographs.

A note upon modified kallitype.

Some reproductions of pictures from the two exhibitions.

An important article by Mr. Henry W. Bennett describing a new method of home sensitising carbon tissue, by which results can be obtained in every way equal to prints on ready sensitised tissue.

A further series of pictures from the two exhibitions.

An illustrated note upon Chillingham and its wild cattle.

A short sketch of the history of paper.

CHEMICAL & PHYSICAL NEWS

A weekly summary of those sciences upon which all photographic processes are based.

Specially compiled for Photography by Prof Fergus J McInnes

AN ALCOHOL LAMP.

IN the *Bulletin* of the French Physical Society, M. L. Denayrouse gives some statistics as to the cost and use of alcohol as an illuminant, which has been rendered practicable by the increase of efficiency of the Denayrouse lamp. Taking 1.08 gramme of alcohol or 0.64 gramme of carburated alcohol per candle hour as the consumption of the lamp, the cost is estimated at 0.00478 and 0.00298 of a penny per candle hour for these two alcohols, as against 0.01428 of a penny for petroleum. The lamp consists essentially of a wick conducting the fluid by capillarity into a chamber where it is vaporised, the necessary heat being produced by a copper bar, which derives its heat from the lamp itself. The vapour then passes through a small channel into a kind of Bunsen burner, above which a mantle is fixed.

TANTALUM.

PROF. H. MOISSEAU has succeeded in reducing tantalic acid to the pure metal by means of the electric furnace. The tantalic acid was mixed with powdered carbon, and the metal obtained was fused, and had a brilliant metallic appearance and a density of 12.79. Hitherto this metal has only been known as a more or less pure powder with a density of 10.50. It is very hard, easily scratching glass and quartz, has a crystalline fracture, and is infusible in the oxyhydrogen blowpipe. It possesses certain reactions, however, which class it with the metalloids rather than with the metals proper.

HYDROGEN PEROXIDE OF CRYSTALLISATION.

IN the current issue of the *Journal of the Chemical Society* it is stated that when a solution of ammonium sulphate in a thirty per cent. hydrogen peroxide is evaporated over sulphuric acid, transparent plates and prisms of the composition $(NH_4)_2$, SO_4, H_2O_2 are obtained. The crystals smell of ozone, and when warmed gently under diminished pressure a concentrated solution of H_2O_2 can be distilled off. From sodium sulphate, octahedral crystals, containing, however, half the quantity of H_2O_2, are obtained. Such salts can be substituted for the persulphates or percarbonates in certain reactions. They can be used medicinally instead of the aqueous solution of peroxide of hydrogen. They part with hydrogen peroxide in ether and other indifferent organic solvents.

SILVERING GLASS.

IN the *Bulletin de Soc. Chimique*, Leo Vignon shows that the presence of extremely minute traces of copper, such as occur in water distilled from copper vessels, or of any copper salts, materially influences the character and temperature of the formation of silver mirrors, produced by the reduction of silver tartrate in dilute ammonia upon glass. In the absence of all trace of copper, no reduction takes place until the temperature reaches 80° C., and then a very white mirror is formed. In the presence, however, of only 0.00005 per cent. of copper a similar mirror is formed at a temperature of 30° C., a yellow one at 40° C., and a dull black deposit at 50° C. With larger amounts of copper present a black deposit is formed even at 30° C.

SYNTHESIS OF ETHYL ETHER.

IN a recent issue of these notes the method was described of obtaining pure alcohol from calcium carbide at a cost, as was stated, of about fourpence per gallon. We learn from the *Electrical World* that pure ethyl ether may also be built up from acetylene in a simple manner. The method is propounded by Mr. Joseph W. Harris, and is described by Mr. P. C. Townsend. The transformation is for all practical purposes direct. From the description given it seems that acetylene is introduced into a strong solution of sulphuric acid in the cathode compartment of an electrolytic cell, the anode of which is enclosed in a porous cup. The acetylene is readily absorbed by the acid, and reacts with the liberated hydrogen, yielding a mixture of ethylene and ethane, the condition of the action being such as to restrict as far as possible the latter gas. The ethylene thus formed in strong sulphuric acid solution passes at once into ether. The controlling feature of the reaction is the presence of a relatively small percentage of water, not to exceed thirty-five per cent., in the acid. At lower acid concentrations the formation of alcohol takes place. The author states that the reactions considered most probable by Mr. Harris are as follows: (1) Acetylene by union with hydrogen passes into ethylene; (2) ethylene by uniting with sulphuric acid forms ethyl-sulphuric acid; and (3) this in the presence of a certain proportion of water breaks up into ethyl ether, with the re-formation of the original acid electrolyte. Inasmuch as certain of the known carbides and carbide mixtures react with water with the formation of ethylene, it would be interesting to determine whether they would yield some ether by decomposition with strong sulphuric acid.

PURE WATER A POISON.

WE recently noted an instance of a fatal result from taking an overdose of potassium chlorate. The *Illustrated Scientific News* now tells us that chemically pure water, that is, water such as is obtained by distillation, or melting pure water ice, rain water, as well as water from some fountains, will exert a pernicious or even a poisonous effect upon the human body, as has been shown by Koepps and Van Hoffs' recent researches. This startling fact may be accounted for by the laws of exosmose. If solutions of different concentrations be separated by a membrane permeable to the solvent, but impervious to the dissolved body, there will be a pressure on the partition wall proportioned to the concentration. If, therefore, outside of a human cell there be chemically pure water, the interior being filled with a more or less concentrated solution, the osmotic pressure may prove sufficient to destroy the cell. This agrees with the fact that such water has a disgusting taste, producing vomiting. The water from certain fountains, but especially water from melting ice or freshly fallen snow, should, therefore, be used with caution.

COMMERCIAL RADIUM.

"THE Iron Age" states that there is now some probability of radium being a commercial article. A company has been formed in Buffalo to extract the rare metal from the uranium ores obtained from the Utah beds owned by the company. A few years ago Mr. Stephen T. Lockwood, of Buffalo, while in the West, met two prospectors who, in the search for silver and gold, had come across a peculiar ore deposit in Grand County, Utah. They sent some of the ore to be assayed, and the report was that there was not a trace of gold or silver, but there was much uranium. Mr. Lockwood, knowing its commercial value, urged its importance upon its discoverers. The Utah bed was carnotite, a combination of uranium, vanadium, iron, copper, barium, and, as recent researches have shown, radium and polonium. Mr. Lockwood, with the aid of George Banta, a young mining engineer, began the search. The ore, in 100 lbs. lots, was crushed to powder, washed with acids, the known metals, copper, iron, etc., eliminated, until finally out of the first lot a small bottle of white powder, a compound of barium, was left. The compound grew more and more powerful.

They then enlisted the attention of the scientists of the Eastern universities, and at last a sample of radium and baryta was produced which showed a potentiality of 365 in the delicate electroscope at Columbia University. A testing plant will soon be completed with a capacity of treating two tons a day. Such an output would mean 100 lbs. of uranium oxide and 300 ozs. of crude baryta-radium compound of ten unit activity due to radium. This crude compound will be treated with hydrochloric acid, the impurities precipitated and reduced to 3 ozs., when the activity would be 100. When reduced to 150 grains it would attain the activity of 1,000, and would be unsafe to carry upon the person except in a lead case. A final concentration of the 150 to 15 grains will provide a compound of ninety per cent. barium and ten per cent. radium. Such a compound would be useful to physicians, who may thus carry about with them the equivalent of a room full of X ray generating apparatus at no cost of renewal, maintenance, or repair. Such a material is immediately convertible into a perpetual lamp of several candle power by merely removing the lead stopper, and inserting in its place a hollow cylinder of paper or aluminium heavily coated with a zinc sulphide preparation.

An Egyptian Haul. By "Anubis."

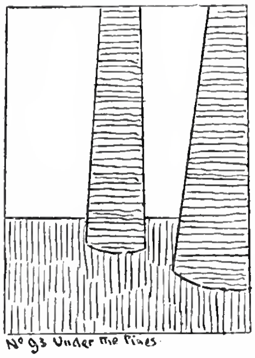
IT was just my luck that on the third (or was it only the second?) fine Saturday we have had this year I should have booked myself to visit the Salon. But being a martyr to duty, I went.

Outside the Egyptian Hall there was a queue of quite respectable length, and I wondered at the unwonted popularity of the show until I beheld over the portal a notice that there were some specially good animated photographs to be seen within. Ye gods and little fishes! The bioscope at the Salon! In the entrance hall was a portrait of the Davenport Brothers, who, I believe, originated the "cabinet."

I recovered my mental equilibrium when I realised that the animated photographs and the crowd were the property of Messrs. Maskelyne and Cooke; and so passed on quietly into the restful little gallery of the Linked Ring.

What a show it is! Who shall describe it? Surely at no other photographic exhibition is there such a kaleidoscopic conglomeration of genius, impudence, skill, daring, originality, under-exposure, over-printing, excellence, tommy-rot, imitation, and perfection. Some of the exhibits I would fain have carried lovingly away, while others I would fain have dropped tenderly into the Pit of Tophet.

To begin with, there is a good deal of mutual portraiture by the members. Yarnall Abbott takes Alvin Coburn (in his shirt), and Alvin Coburn takes Yarnall Abbott (in his studio). He also takes Gertrude Käsebier, Joseph Keiley, and Alfred Stieglitz, and while he is romping around he does not forget his grandmother. There are also portraits of A.B. and Mlle. A.B., Mlle. H., D.N., Master K., Miss W., and other alphabetic celebrities.


No 93 Under the Pines.

The largest picture is No. 10, "Am Parkthor," which is eloquently painted in dark varnish stain on a piece of linoleum. One of the smallest is a "Bowl of Flowers," which may be an excellent specimen of modern photographic art, but makes one wonder what the eighty odd per cent. of rejected pictures must have been like. The saddest picture is "At the Salon" (172), which represents a lady examining the exhibits which, on a large wall space, only number five, and one of these is in a circular frame. Surely this is not prophetic of the future of the Salon? The funniest subject is the "Boulogne Fishwife" (61), who has at last captured between her relentless finger and thumb the little torment *(pulex irritans)* who has caused her such uneasiness, and whom she regards with a look of mingled vindictiveness and triumph.

When I recall the humorous side of the show my heart goes out in gratitude to Mr. Frederick H. Evans. Relying on my erratic memory, I have sketched herewith one or two subjects, and have included his "Villainy" (77), of which I had great joy. Good Evans, how I laughed! Gladsome also did I feel on contemplating his "Portrait Study" (141), which is not entitled "Oleaginity in Excelsis." I am also grateful to learn that the famous Lesbia (the proprietress of the beaming eye) was a negress.

No. 77. Villainy.

In the sketch of No. 93, "Under the Pines," I have indicated (also from memory) a notable example of appropriate composition. That the masses in a picture of coniferous trunks should take the form of truncated cones is most apt.

In No. 128, I have endeavoured to depict the subtle suggestion of the mass of shadow which throws so nobly into relief the severe lines of the expressive face. This is really a good sketch, and not only does justice to the picture, but reflects a great deal of credit on me. "The Bell Tower at Santa Barbara" (99), by the same author, does not contain as much shadow, as nearly half the print can be distinguished quite easily from black paper.

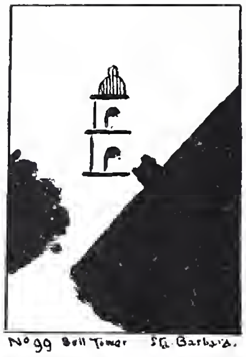
Only those who do not buy a catalogue remain under the impression that No. 170 is a view of Sir Henry Irving at midnight. It is nothing of the sort.

These are the only pictures I can draw at present, because I have run out of Indian ink.

No 128 Portrait of my Grandmother.

Furley Lewis's rendering of a corner of his studio is magnificent, and as the lady model entering the door has not yet commenced her toilet, it is perhaps as well to keep the lighting as low as it is. If the electric light were switched on in the circumstances it might make Mrs. Grundy jump.

It is not easy to see how Miss Mabel Jennings has made her poster study of a Pierrot by photographic means. At any rate, she has artlessly (or artfully?) shown that she can do just as well by hand, because she has put in a border and title on the mount that cannot be distinguished in colour or quality from the print itself. Whereas the colour of the retouching in Winthrope Somerville's No. 216 forms a pleasing contrast to the rest of the print.


No 99 Bell Tower St. Barbara.

I suppose my ignorance is to blame, but there are one or two things done by some of the Links and their friends that I can't for the life of me understand. One is why, directly the image in a gum or carbon print begins to show at all, they stop development. Another is why, when they have made a decent platinum print they let it lie in the sun before developing it. And the last is how, with the heart-rending limitations and drawbacks which photographic processes possess at present, some of them can produce such entirely delightful and charming works of art as they do.

And if any Philistine thinks that there is no really fine work at the Dudley Gallery, let him go and see. For very often "fools who came to scoff remain to *pay*." They also have to pay to remain. But that is another matter.

QUESTIONS AND REPLIES

Readers wishing for information upon any specific point in connection with photographic theory or practice are invited to make use of the "query form," which will be found amongst the advertisements. All enquiries must comply with the conditions stated upon the query form; those which do not do so are neither acknowledged nor answered. All enquiries are answered by post. We cannot undertake to make replies in the paper. We print below from time to time a selection from the queries we receive, and our replies.

THE SAFE EDGE IN CARBON WORK.

Where ought the safe edge to be put in printing on carbon tissue? I have been putting it on the back of the negative, as recommended in the instructions, but this gives a blurred edge to the print. I have seen some prints on large paper surrounded with a narrow light tint, which looks very nice. They are all on one sheet of paper. How are they made?

In a general way, the best place for a mask that forms the safe edge is on the back of the negative, as then the edge of the image is vignetted off, and there is less chance of the gelatine washing up than if the mask were placed between the negative and the carbon tissue. The effect referred to can be produced by cutting the mask out of very thin opaque paper and laying it on the face of the negative. A sheet of tissue, as much larger than the negative as is required, must be adjusted so as to leave an equal amount of margin all round. When the exposure has been made, and just before the tissue is squeegeed down upon the support, a very narrow strip should be cut off each edge to remove the gelatine that has been exposed to the air, and which would otherwise develop as an irregular dark line. The exposure should be very exactly timed, as in this method of working there is a tendency to wash up the image if very hot water is used. If all goes well, the image will be surrounded by a margin in the same tint of colour, resembling the India tint in an etching, and as it is produced in the operation of printing, is perfectly legitimate.

WIDE ANGLE VIEW WITH A PINHOLE.

I wish to take panoramic views, including 140 or, preferably, 150 degrees, with a pinhole on a half-plate. Can this be done? If so, what size pinhole would be required, and what would be the distance from the pinhole to the plate in inches?

To embrace such a wide angle as even 135 degrees, the pinhole would have to be as close as one and a quarter inches from the centre of the plate. As, however, it will be about three and a half inches from the ends of the plate, it is obvious that a pinhole which would be of the correct size for the centre would be too small for the distance from the ends. Farther, it is obvious that while the hole as seen from the centre of the plate would be a disc, seen from the ends it would be a narrow elliptical slit. This would lead to a very peculiar form of distortion. Working at a distance of one and a quarter inches, the correct size of the pinhole would be the one hundredth and twentieth of an inch. As, so far as we know, no needle is made so small as this, the most practical plan would be to puncture the metal with the point of a fine needle and then to rub down the burr with an oilstone. For the reasons given above it would not be practical to include so wide an angle as that required.

REMOVING HALATION.

The enclosed prints are from a negative on a cut film which is badly halated. I have been rubbing down the halated parts with a rag moistened with spirit. Do you think the results shown in the print marked B are good enough to warrant more time being spent on the negative?

In the first place there is a much greater amount of halation than we should have expected to find in a negative upon a cut film. This is partly due to the exposure having been too brief for the heavy shadows and possibly in part to an injudicious method of development. The halation exists chiefly at the back of the film, and prolonged development gives it every chance of making its appearance, while on the other hand a developer free from bromide and with sufficient alkali to bring out the image quickly is likely to minimise it.

Rubbing down with spirit is the worst possible cure for halation, since, as pointed out above, the halation is at the back of the film, and in rubbing down it is the detail on the face of the negative that is removed. In the print sent the detail in the shadows has already suffered from the treatment.

The only efficient method is to remove the halation from the back of the film. This may be done by bleaching the image in chromic acid thirty grains, potassium bromide sixty grains, water ten ounces. When the bleaching has proceeded right through to the back of the negative it is to be thoroughly washed and redeveloped with any clean working developer. First the surface will darken, then the half-tones will be developed, and if the film is examined at this stage it will be seen that only the high lights and the halated parts remain white. The image must be watched very closely from the back, and this may be done with ease, as the whole of the operations may be conducted in white light. As soon as the highlights have been developed and while the halated parts remain white the negative is plunged into a freshly made hypo bath. This will remove the halation, but if development has been checked too soon the negative will be thin. The error, however, is on the right side, as it may be remedied by intensification. If on the other hand development is carried too far the operation will have to be repeated at the risk of stains. The operation requires some skill, and the first experiments should be carried out on waste negatives.

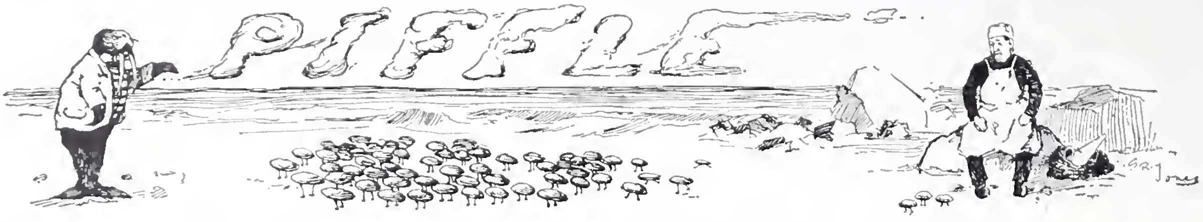
STAINS ON BROMIDE PAPER.

Can you give me any idea how the stains on the enclosed bromide enlargement were caused? It was developed with rodinal in a wooden dish, and I find that one of the nails has passed through to the inside and has become rusty. If you think that they are iron stains, can you tell me how they can be removed?

The stains were probably caused by the use of an insufficient quantity of developer. If that was so, parts of the print would be exposed to the air, the developer in the fibre of the paper would become oxidised, and lead to the production of the stains. The rusty nail does not appear to be the cause in the present instance, but it should be withdrawn, as it may lead to stains of another description. A possible remedy is to immerse the print for some time in an acid fixing bath. To make this, half an ounce of sodium sulphite and a quarter of an ounce of citric acid are to be dissolved separately in a little water, mixed, and added to a pint of freshly made fixing solution. The cure is very doubtful, and it will be found quicker and more satisfactory in all ways to make a new print.

NOTICE TO ENQUIRERS.

Answered by post: W. H. Carter, H. S., Glasgow, G. Basil Harrison, E. W. Oliver, F. C. S., O. G. Stewart, Amateur, E. L. Lethbridge, Constant Reader, Rev. R. F. Patterson, Bi-gum, Lieut. G. B. Harrison, G. Dixon, J. J. C., T. N. P., Amidol, C. Marshall, H. W. P., W. Rayner, W. Walker, F. H. Farquharson, Professional, G. R. Cranch, Ferro-prussiate, H. Byas, G. W. Cattley, W. T. M. Burt, Exhibitor, Plymouth, E. J. Miller, J. S. Morehead, Alpha, T. C. Harper, O. L. Shervinton, J. Marr, H. J. H., M. Huber, T. P. H., F. J. Austin, F. G. Brook-Fox, T. W. S., D. M. L., Lee, Silurian, W. Watson, O. B. D., Klito, D. B. Gray, J. Gow, R. A. S., J. Horn, W. S. W. G., Puzzled, H. Spier, J. Wadham, Norwich, J. S. Prince, Hypo-Alum. M. K. Eadie, Shareholder. A. Percival Brown, Focus, S. Booth, New Barnet, Kodoid, Frank Paterson, F. E. S., A. Llewellyn, E. A. Lang.



"*The time has come, the Walrus said, to talk of many things*"

SIR BENJAMIN STONE, M.P., has succeeded in rousing the ire of the Aberdonians. It appears that the Shore Porters' Society of Aberdeen affect a quaint costume which includes a swallow-tail coat and a broad bonnet with a red tassel. Sir Benjamin prevailed upon them to dress thusly and then go through the performance of a mock funeral in St. Nicholas Churchyard while he photographed them.

* * *

The Scots are a practical people, and next time they may realise more fully the unreality of the show, and put a finishing touch by providing a corpse on the spot.

* * *

That would mean another bye-election.

* * *

Glancing recently through a new catalogue of photographic apparatus I was astonished to find several distinct novelties that have not received the recognition they deserve, and I therefore proceed to rescue them from unmerited oblivion. For example, I see that some lenses are now fitted with an iris *diaphragam*, and a hand camera with a mahogany *boby* also has a falling *basement*. These things mark a distinct advance in construction.

* * *

It is certainly generous to supply for a few pounds a camera *filled* with Zeiss anastigmat lens. The bulk of lens is certainly ahead of the quantity usually supplied at the price. On the other hand, the chances of efficiency are very slender in a shutter which is said to be fitted with one spring only, and should this vary it will not *effect* the exposures.

* * *

There is also distinct originality in a half-plate single lens of 96in. focus, and Messrs. Beck have succeeded in making a lens which at f/5.8 covers a plate 6½in. by 40in. The circle of illumination is evidently an ellipse. They have thus left far in the lurch a Busch lens of 10in. focus which sharply covers a plate ½in. by 7in. This last size should become very popular, and would be particularly effective with a ¼in. trimmed off top and bottom.

* * *

It has been my misfortune to wade disconsolately through a vast number of press reports of this year's Salon, and having finished the task I award the palm for the best and most classy account of the show to that appearing in the *Lady*. It is so exclusive, don't you know. List, oh list!

* * *

And a very short list it is, too.

* * *

The most noteworthy exhibits, according to the *Lady*, were the two portraits of the King by Baron A. de Meyer ("who has photographed nearly all the smart women in Society"). Baron de Meyer also shows a portrait of that pretty *débutante*, Lady Marjorie Manners, and another of the Baroness de Meyer. Two other pictures are by Lord Maitland. And—that's all.

* * *

Which shows that you must have a handle to your name before it can be lifted into the select columns of the *Lady*. No plebeians need apply.

* * *

The only method of development which allows one to sit calmly down during the whole operation is "stand" development. Hence the name.

* * *

The Board of Trade has earned the eternal gratitude of those that go down to the sea in ships. It has had its attention drawn to the fact that carbon tissue contains fatty substances and finely divided carbon which might perhaps under certain possible conditions perchance give rise to a remote risk maybe of spontaneous ignition. Therefore such dangerous material must henceforth be packed a few sheets at a time in airtight tins, and placed in suitable cases. Otherwise it must go as deck cargo, so that it can be shovelled overboard as fast as it spontaneously combusts.

* * *

This reminds me of an incident related by a friend. He was setting out on an over-sea photographic trip, and the vessel called at a certain place to ship a quantity of explosives and projectiles. A gorgeous official came aboard to superintend the business, and issued drastic orders forbidding the presence at the ceremony of even a safety match. The deadly cargo having been duly bundled on to the deck the gorgeous official took his departure. Whereupon the captain heaved a tempestuous sigh of relief, plumped down on a case of lyddite shell, fervently ejaculated "Thank the Lord, we can smoke now!" and proceeded to light up.

* * *

But there was no carbon tissue aboard

* * *

The *Lynn News* publishes an account of legal proceedings taken by a photographer against his assistant who had basely deserted him without warning in the very height of the golden harvest of a Bank Holiday. This account is headed "A Pyrogallic Churl."

* * *

I like that expression. It is new. And if my memory plays me not false the word churl is derived from the Anglo-Saxon ceorl, a husbandman. Now according to the schoolboy's definition a husbandman is "a man what some lady has made him marry her." I therefore have tho pleasure of dedicating to those ladies whose husbands are photographers the innocent but scathing term "a pyrogallic churl." It is constructed so as in some respects to resemble Homecea.

* * *

When the old epithets have lost their sting by reason of long and frequent usage, and have become so familiar as to breed contempt, it is very precious to have placed at one's disposal so new and refreshing a term of endearment. We have all heard the story of the Irish "lady" who callously ignored a torrential output of vituperative anathematisation until she was addressed as a parallelogram. Whereupon her Hibernian choler rose, and she impotently foamed at the mouth in her inability to reply adequately to such an epithet.

* * *

Further on in the account of these proceedings it is recorded that upon the assistant being requested by his master to "take" a lady who was waiting he replied, "You be hydroquinoned!" Having already catered for the ladies I now suggest to the husbandmen a new set of what may be termed deputy-swear-words. The comprehensive list of photographic and chemical terms should furnish ample and harmless material for a brand-new set of expletives to replace the commonly employed athanaisianisms of the field, the studio, and the dark room. They might perchance suffice even for the golf-links. But of that "I hae ma doots."

* * *

The up-to-date matrimonial dialogue may now commence thus—(Joan) "You are a pyrogallic churl." (Darby) "You be hydroquinoned!"

THE WALRUS.

SUBSCRIPTIONS.

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PHOTOGRAPHY
Edited by R. Child Bayley, F.R.P.S. Published Weekly
No. 779. Vol. XVI. SATURDAY OCTOBER 17th, 1903. THREEPENCE.

Improvements in Sensitising Carbon Tissue.

A record of some Experiments in Printing with Bichromates.

By H. W. Bennett. Special to "Photography."

It is generally recognised by those who work the carbon process on a small scale that it has not been possible, hitherto, to obtain such good results on home-sensitised tissue as on that bought ready sensitised. Mr. Bennett has carried out a large number of experiments to get over this difficulty, and in the article which follows describes a method for home sensitising which will be found to give greatly improved prints.

ALTHOUGH the carbon process is the ideal method of printing for the pictorial photographer, there have been serious obstacles to deriving the full advantages from it in the hands of the ordinary small user that do not apply to those who work on a larger scale.

The first of these objections has been the absence of keeping qualities in sensitive tissue. It has been known for a long time that if tissue were kept absolutely dry it would remain in fair condition for several weeks, and the introduction of the Autotype Company's storage box, in which tissue is kept flat and the air dried by means of calcium chloride, was a step forward; but, unfortunately, tissue so kept is much more difficult to work satisfactorily than when first manufactured, especially if development should be prolonged. Instead of the tissue dissolving easily as it would do if perfectly soluble, it appears rather to break away from the image with difficulty.

An obvious remedy is to sensitise tissue for one's self as it is required, this plan allowing us to keep a varied assortment of colours and to select, just when wanted, one or more pieces of any particular colour, thus imparting more variety to our work than any other printing process will allow. The objections to this method of working, however, are more serious than those that apply to using tissue sensitised in the course of manufacture. Tissue sensitised in a bath is in every respect inferior to that made sensitive originally; it is much more difficult to work satisfactorily, being much less soluble; its keeping qualities for the same reason are practically non-existent, and—the most important objection of all—the resulting prints are very inferior in gradation and brilliancy. Added to these objections is the trouble of drying successfully, for, as the drying conditions depart from the ideal, the difficulties of working increase, and the quality of the prints obtained still further declines.

In using the word "brilliancy," it must not be understood to imply "contrast." The loss of brilliancy referred to is not the absence of contrast that might be caused by using a sensitising bath much too strong; if this were the only cause it could be easily rectified by sensitising in a weaker solution, but it is a character that the prints retain, however weak the sensitising bath may be. It consists essentially of the weakening or loss of the gradations in the lighter portions of the picture, those details that should be represented by light but well-marked gradations being instead simply a flat mass of grey with scarcely perceptible variation; or, if the printing should be stopped at an earlier stage, a flat white devoid of gradation, and a generally weak print will result instead.

Considering that one of the essential qualities of the carbon process is its fine gradation, both in the extreme lights and in the deep shadows, this loss is the more noticeable; and, in some subjects particularly, the contrast in quality between a print made on tissue sensitised in course of manufacture and one on tissue sensitised by immersion is so great that no one making the comparison would use ordinary bath sensitised tissue if the ready sensitised were available, especially as this loss of quality is accompanied by so many other objections.

As sensitising is, in itself, such a simple operation, and the ability to secure thoroughly good results on home sensitised tissue would confer so many advantages on the small worker, not the least being the opportunity of keeping a stock of insensitive tissue of various colours, including those not readily obtainable sensitive, and preparing any assortment desired for the day's printing, I have been making a number of experiments for some time past, my object being to so sensitise commercial tissue that it should possess, if possible, the following qualities:

First. In gradation and quality of finished result it should be equal to that sensitised in making. This is the most important qualification of all, since without this the other qualities are comparatively valueless.

Second. In solubility and ease of working it should compare reasonably with ready sensitised.

Third. It should be, as far as possible, independent of the conditions of drying.

It is useless to describe the experimental work involved or the substances tested before successful results were obtained, but I will give my conclusions and notes on the substances selected and their influence on the result, and the method of working consequently suggested.

Potassium Bichromate. Although other chromium salts have been tried, none have worked so satisfactorily as potassium bichromate. That used has been pure granulated supplied by the Autotype Company as especially reliable and suitable for the carbon process.

Tissue has been sensitised by immersion in plain solutions of potassium bichromate varying in strength from one to four per cent., and the utmost care taken to ensure the most satisfactory drying. In all cases the resulting prints have been very inferior to those obtained on tissue sensitised in making, principally in brilliancy and gradation, as previously described. Although the contrast in the prints was greater when the weaker solutions were used, yet, in all cases, the character was the same; the lighter gradations merged into one flat grey with little variation, though the total contrast in the print might be fully equal to that given by ready-sensitised tissue. In addition, the tissue has always been much more difficult to work; it has been much less soluble and the backing paper very troublesome to remove.

Among the various substances added to the sensitising bath with the object of improving the quality of the tissue in working and also in the resultant prints, the following are those most worthy of attention.

Neutral Potassium Oxalate. The addition of this salt has been suggested by Professor Namias for conferring keeping qualities, but as my work has been directed solely to obtaining good results on tissue used soon after sensitising, and as this salt is distinctly inferior in this respect to other substances that I had used, it has been discarded.

Sodium Carbonate. The results obtained by adding sodium carbonate to the sensitising bath have been very promising, and for some special cases equal to those given by any other substance. The quantity that could be added with success required gauging very carefully, as it was found that if sufficient to ensure solubility and easy working were used, other difficulties were introduced; and, as a much smaller quantity would give improved gradation, another addition was made in combination with sodium carbonate to secure good working qualities, which will be described in a later paragraph. The effect is to lengthen slightly the gradations at the light end of the scale.

Potassium Carbonate is very similar in its effect to sodium carbonate; a smaller proportion is sufficient to produce the same degree of modification.

Neutral Potassium Citrate. This salt has been added to the sensitising bath by Professor Namias for conferring keeping qualities; and in testing it for my purpose—securing improved gradation—it was found to have a very marked effect. Used alone, however, the general working qualities of the tissue were no better than when a plain neutral solution of bichomate was used, but these qualities were easily secured by a further addition to the solution.

Sodium Citrate may be substituted for the potassium salt, the differences are inappreciable.

Citric Acid. Although from the conditions recognised as being essential for the successful working of carbon tissue, especially when bath sensitised, this salt appears to be one of the least desirable additions to the sensitising solution, yet it has given the best results in every respect. A small proportion produces a decided difference in gradation; the results can therefore be easily controlled or modified.

It has been stated in a preceding paragraph that the inherent defect in bath sensitised carbon tissue is the loss of gradation at the light end of the scale, the general effect being that which would be produced by exposing tissue to light and so fogging it or degrading its purity; and this grey veil robs the lighter tones of all their value, gradation, and brilliancy, and it still remains even if the portions of the print protected by the safe-edge are quite clean. By no care or precautions in drying have I been able to overcome this defect, and those most experienced in working the carbon process have invariably stated that bath sensitised tissue is distinctly inferior to that sensitised in course of manufacture. It has been this defect more than any other that I have endeavoured to remove, and the results obtained are not only thoroughly satisfactory, but from the data given they can be modified by each worker as he may desire.

Taking the substances named, potassium oxalate may be dismissed, and the others may be placed in the order in which they have been described, sodium carbonate producing least effect, and citric acid being unquestionably the best, and also offering the greatest power of control. It is absolutely essential, however, to neutralise, or more than neutralise, the acidity of the solution; and the method of obtaining an akaline bath is the determining factor in securing good working qualities.

Ammonia. I have only succeeded in sensitising tissue that would be as satisfactory in its ordinary working qualities as freshly-made sensitive tissue, by making the sensitising solution alkaline with ammonia, whatever substance had been added for modifying the gradation. Although various degrees of alkalinity have been tested experimentally, that which has been found to be the most satisfactory and the most simple to determine has been to add ammonia to the sensitising solution, after all the other ingredients have been dissolved, until the orange-red colour of the bichromate changes to a lemon yellow; and the smallest possible quantity of ammonia that will effect this change should be used. This amount will vary with the different substances or quantity of such substances added. In my earlier experiments with the carbonates, sufficient of these was added to the solution to effect a similar change, as the value of this condition of the bath was recognised; but, in all cases, the results obtained were very inferior in many respects to those resulting from a smaller proportion of carbonate with sufficient ammonia added to complete the change.

For obtaining good working qualities—solubility, freedom from brittleness in developing, etc.—the value of ammonia cannot be over-stated; and although its full effect is most noticeable when added to a strong solution of simple bichromate—the most unsatisfactory sensitising bath—yet its efficacy does not appear to be impaired by any of the substances given in this article, but as they modify the tissue, the effect of the ammonia has to be examined carefully by comparative tests.

In all the following formulæ the quantity of ammonia represented by x is determined by the method given in the paragraph on ammonia.

Sensitising Formulae.

A.—	Potassium bichromate	1	ounce
	Citric acid	$\frac{1}{4}$	ounce
	Ammonia	x	
	Water	50	ounces
B.—	Potassium bichromate	1	ounce
	Citric acid	$\frac{1}{2}$	to 1 dram
	Ammonia	x	
	Water	50	ounces
C.—	Potassium bichromate	1	ounce
	Potassium citrate	$\frac{1}{2}$	ounce
	Ammonia	x	
	Water	50	ounces
D.—	Potassium bichromate	1	ounce
	Sodium carbonate (crystallised)	$\frac{1}{2}$	ounce
	Ammonia	x	
	Water	50	ounces

In all cases the solids were dissolved separately and their solutions mixed.

The solutions will keep well in stoppered bottles. As a small quantity can be used if the tissue is kept flat—four or five ounces for six pieces 8½in. by 6½in.—the used solution should be thrown away, or a larger quantity may be taken and used several times if fresh stock solution is added each time. A solution used too many times will give uncertain results.

These formulæ work well with Autotype, Barnet, and Illingworth tissues. For Wellington, which is very soluble, the quantity of ammonia should be reduced to one-third of that given. A quantity of solution should be taken and ammonia added as directed, and twice its volume of stock solution without ammonia added to it. The tissue so sensitised will work in every respect similar to the other brands named with the full quantity of ammonia.

Results and Conclusions.

For general work solution A should be used, as it secures the finest possible gradation in the lighter work, a full scale of tones, good shadow detail, and contrast without harshness. From a negative suitable for carbon printing a rich print can always be obtained, as the tissue should be very uniform in quality and condition at the time of using. The difference between the various formulæ is entirely in the gradation resulting in the lighter tones. Solutions B or D may be used for under-exposed negatives in which the lighter tones are relatively too strong or harsh, or for any work when the gradation at the light end of the scale is too strongly marked and requires softening down. Solution C gives a result similar to B with the larger quantity of citric acid. Formulæ A and B are preferable to C and D.

The proportion of water may be varied according to the degree of contrast required, a stronger bath giving less contrast and *vice versâ*. This strength will be found best for general work.

The method of sensitising adopted has been to immerse the tissue face downwards in the solution for ninety seconds, then lay it face down on a sheet of glass and squeegee gently to remove as much solution as possible, and if any surface moisture should remain on the back rapidly remove it with blotting paper; then lift it by two corners and gently pull it from the glass, attach it by pins or clips to a lath, and hang it to dry.

Drying. Tissue sensitised by these formulæ is practically independent of drying conditions, provided that it dries within a moderately uniform time, from four to six hours. *Gas in the drying room has little or no effect.*

In general working the tissue has been in the highest degree satisfactory, and very pleasant to use after working ready sensitised tissue that had been kept in a box with calcium chloride. It is extremely soluble, dissolving very gently and easily at a temperature of 100 degrees; the backing paper is very easily removed after a few seconds' immersion in the developing tank, and there is not the slightest tendency to blister, nor break, nor to produce any mechanical defects even when development is very prolonged.

In almost all cases the tissue has been sensitised at night and used the following day, and no special precautions have been taken between drying and using, the tissue being simply put in an ordinary cardboard plate box. As an experiment, some was left freely exposed to the air for eight to ten hours after drying, and no difference could be detected.

As most of this work has been done during the present summer, the wet weather has been a severe test of the efficacy of the methods adopted, both in regard to drying the tissue and its after working.

Speed. Tissue sensitised by the solutions given is considerably slower than that sensitised in the plain potassium bichromate bath, but the gain in quality more than compensates for the loss of rapidity.

Although commercial tissues differ so much in speed when purchased sensitive, yet when sensitised on these baths they are all practically identical, excepting the new matt-surfaced tissues, which require only three-fifths of the exposure of the ordinary kinds. Black tissue will be approximately the same speed as Ilford P.O.P. when sensitised in bath A, so that if a narrow strip of this paper is placed along one side of the negative, it may be printed until the light tones are just as dark as required in the carbon print, and an actinometer dispensed with. Brown tissue will require rather longer exposure than this, about one-fourth, and red-chalk about one-third longer than black, or until the silver strip is dark enough for toning.

Formulæ B, C, and D yield a tissue slower than that produced by A, the proportionate exposures necessary being approximately A = 4, B and C = 5, D = 6.

Keeping Qualities. I have tested the keeping qualities of tissues sensitised on these baths, always sensitising a piece in a plain solution of potassium bichromate, and keeping under identical conditions for comparison. The method of storing has been under the pressure of an ordinary printing frame—a method that would be effective with ordinary P.O.P. for many weeks. Ten days has been the test time, and although the results with some sensitisers have been superior to that given by the simple bichromate solution, yet in no case have the prints been so good or as clean as on freshly-sensitised tissue. The "safe-edge" has always been degraded, and the prints poor in quality. The solutions containing ammonia have been the most satisfactory, though far from good.

Desiring the best results in my own work, I have never been willing hitherto to use any other than ready sensitised tissue; and my object in these experiments has been to determine a method of bath sensitising that should give the finest possible quality in the resulting prints, a power of control in character and contrast impossible in ready sensitised tissue, satisfactory working qualities, and uniformity. The results have been so eminently satisfactory that they have completely revolutionised my own practice; they are fully equal to those given by ready sensitised tissue at its best.

There are so many self-evident advantages in keeping a stock of various colours and kinds of tissue and sensitising to suit the requirements of the moment that the method of working here given will probably be as valuable to others as it has already proved to me. One of the greatest disadvantages of the carbon process to all excepting those who work on a large scale has been the inability to secure their sensitive material in the best possible condition, especially when small quantities or several colours were required.

PICTURES FROM THE TWO EXHIBITIONS

THE ROYAL PHOTOGRAPHIC SOCIETY & THE SALON

The pictures which, by the courtesy of the exhibitors, we reproduce this week are:

16.—Cliffs and Clouds. By Dr. W. Fisher Ward. (No. 239 Salon.)

17.—Decorative Study. By Georges C. Ecalle. (No. 245 Salon.)

18.—A New Song. By E. T. Holding. (No. 302 R.P.S. and No. 68 Salon, 8in. x 5in., £1 1s.)

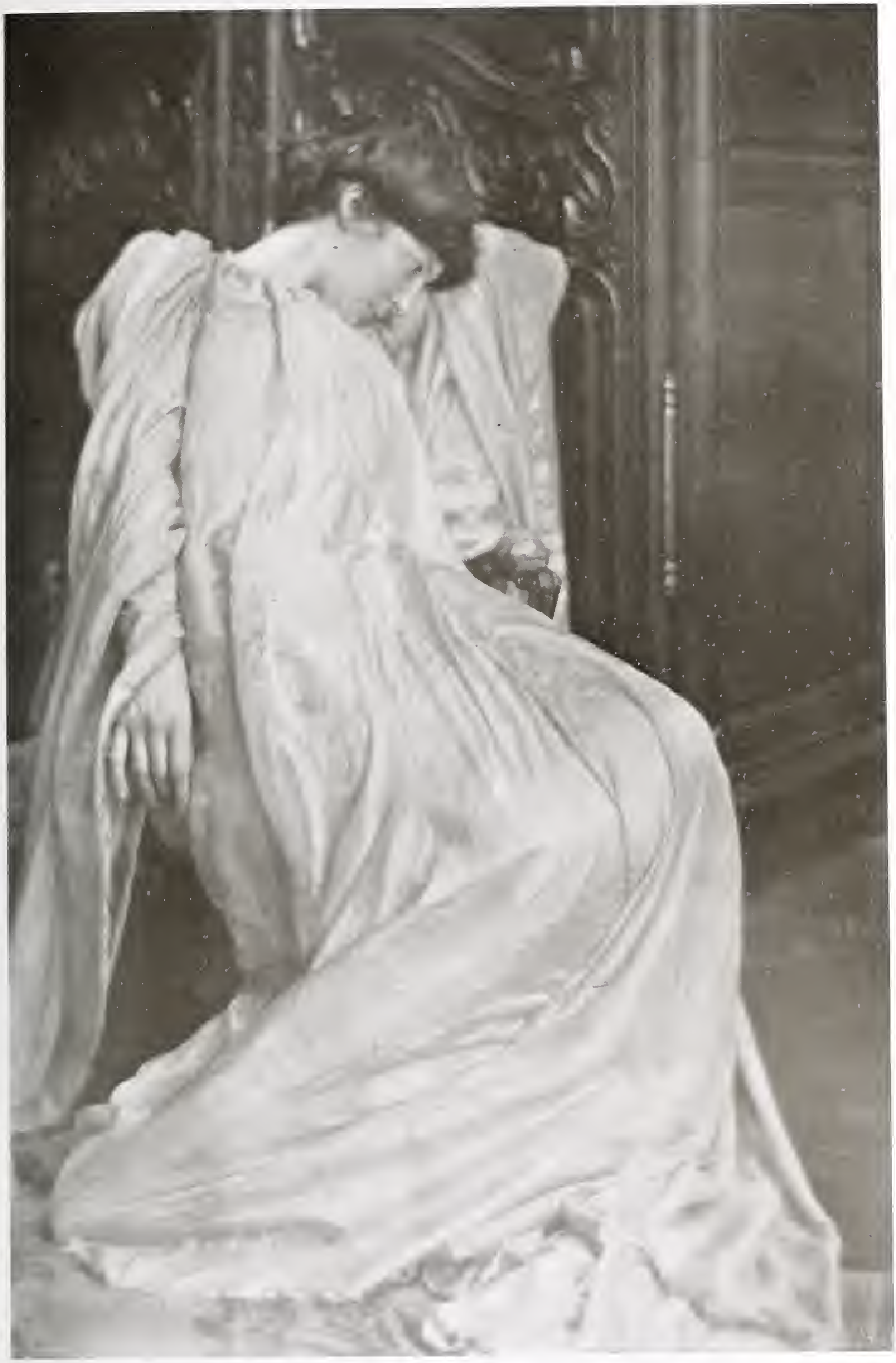
19.—Shadows. By A. & F. Read. (No. 198 Salon, 6in. x 4in., 15s.)

20.—Vedettes of the Moor. By Hector E. Murchison. (No. 79 Salon, 9½ x 7, £1 10s.)

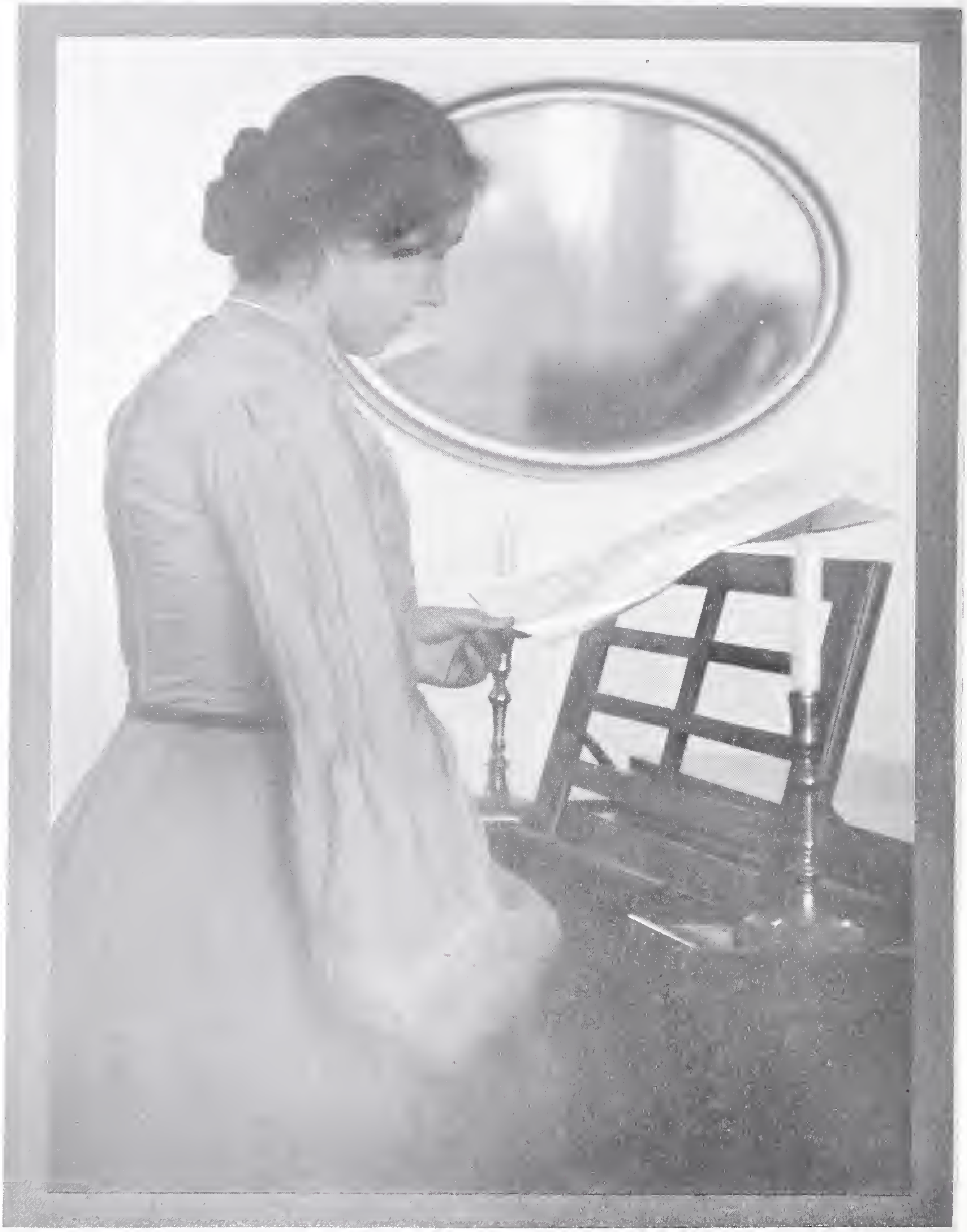
When a price is given it is for the framed picture, the sizes being the dimensions of the print, excluding frame and mount. Intending purchasers should communicate with the Secretary of the R.P.S., New Gallery, Regent Street, London, W.; or with the Secretary of the Photographic Salon, Dudley Gallery, Piccadilly, London, W., as the case may be.

CLIFFS AND CLOUDS.

BY DR. W. FISHER WARD



DECORATIVE STUDY. BY GEORGES C. ECALLE.



A NEW SONG BY E. T. HOLDING.

SHADOWS.

BY A. AND F. READ.

VEDETTES OF THE MOOR.

BY HECTOR E. MURCHISON.

FORTHCOMING EXHIBITIONS

Society	Opens.	Entries Close.	Secretary.
Coatbridge P.S.	October 17	—	The Secretary, Ailsa Cottage, Coatbridge, N.B.
Kettering C.I.	October 21	October 19	E. Claypole, 112, Hawthorn Road, Kettering.
Isle of Wight P.S.	October 21	October 13	J. H. Burgess, 53, Pyle Street, Newport, Isle of Wight.
Belfast Y.M.C.A.	October 28	October 14	D. J. Hogg, 3, Trinity Street, Belfast.
Ealing P.S.	October 29	October 19	H. A. Ball, Town Hall, Ealing.
Plymouth Industrial	November 4	October 24	Chas. A. Rowe, 2, Walnut Villas, Cockington, Torquay.
Frome M.I.	November 5	October 24	Bernard J. Mitchell, 3, Willow Vale, Frome, Somerset.
Edinburgh Industrial	November 5	October 17	A T. Huchinson, 7, North St. Andrew Street, Edinburgh.
Hackney P.S.	November 11	October 26	Walter Selfe, 70, Paragon Road, Hackney, N.E.
Braintree and B.C.C.	—	October 30	W. P. Dreaper, Coggeshall Road, Braintree.
Friary Bazaar	—	October 31	H. Sharp, 105, Muster's Road, West Bridgford, Nottingham.
Sheffield P.S	November 17	November 3	J. W Charlesworth, 1, Joshua Road, Sheffield.
Bishop Auckland P.S.	November 17	November 8	John Welsh, Salisbury Place, Bishop Auckland.
Sunderland P.A.	November 18	November 2	W. E. Kieffer, 1, Stirling Street, Sunderland.
Southsea P.S.	November 18	—	F. J. Mortimer, Pembroke Road, Portsmouth.
Tunstall	November 18	November 7	C. J. Eardsley, High Street, Tunstall, Staffs.
Edinburgh P.S.	November 21	November 7	J. S. McCulloch, W.S., 3a, North David Street, Edinburgh.
Berne International	November 25	—	Prof. Deichselt, 19, Bühlstrasse, Berne.
Glasgow E.A.P.S.	November 28	November 23	A Walker, 80, Garthland Drive, Dennistoun, Glasgow.
Hove P.S.	December 2	November 23	A. R. Sargeant, 55, The Drive, Hove.
Southampton P.S.	December 11	December 2	S. G. Kimber, Oakdene, Highfields, Southampton.
Chicago S A P.	December 29	December 15	Society of Amateur Photographers, The Art Institute, Chicago.
North West London P.S.	February 11	January 28	J. S. Fairfoull, 13, Addison Road, Walthamstow.
Cripplegate P.S.	February 29	—	G. H. Depledge, 17 Hazeldene Road, Goodmayes, Chadwell, Essex
Brentford P.S.	—	—	F. H. Read, Clifden Road, Brentford.
South London P.S.	March 5	February 20	W. C. Marshall, 41, Glendon Road, Lee, S.E.
Brechin P.A.	March 5	February 13	J. Kirk, 1, Infirmary Street, Brechin.

SNAP SHOTS

NEWS · NOTES FROM MANY SOURCES

The last day for entries in the Rotox competition has been postponed till January 31st to meet the convenience of colonial competitors.

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The winter session of the Southampton Camera Club was opened by Mr. S. G. Kimber on the 5th inst. with a demonstration on making enlarged negatives. He used negative paper, preferring it to glass plates for the purpose.

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Free photographs again. Marks and Co., photographic enlargers, of Westmoreland Art Studio, St. Thomas's Road, South Hackney, were summoned at the Richmond Borough Court for unlawfully detaining a photograph. The "free enlargement dodge" had been tried, and the photograph sent for the purpose was only returned (by post, unpaid) after the summons was taken out. An order was made for the payment of a guinea, together with full court costs, and the Mayor said that they were much obliged to the prosecutor, Mr. Dimbleby, for bringing the case into court.

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The Glasgow Southern Photographic Association has obtained on lease the house at 1, Eglinton Lane, S.S., and is having it fitted up. There will be an enlarging room, two dark rooms, and two meeting rooms, each of which will seat about two hundred, and it is anticipated that they will prove large enough to serve as exhibition rooms. It is intended to hold an exhibition of members' work in March, with possibly an open class and a loan collection. Those desirous of joining the association should address the honorary secretary, Mr. W. A. Frame, at 28, Bank Street, Hill Head, Glasgow.

The Darwen Photographic Association held a social evening on the 8th inst., when a gold chain and pendant was presented to the secretary, Mr. J. G. Thomas.

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The Heaton Amateur Photographic Society opened the winter session on the 6th inst. We note from the book of rules sent that a dark room and enlarging apparatus are provided for the use of members. The honorary secretary is Mr. G. C. Unwin, 30, First Avenue, Heaton.

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A big photographic exhibition in Liverpool is likely to become an accomplished fact next spring, inasmuch as the Corporation has granted the use of the Walker Art Gallery for the purpose. We understand that there is every likelihood of Mr. Inston taking hold of the secretaryship.

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"Lantern Slides Plain and Coloured" was the title of the lecture delivered by Mr. W. Bagshaw at the Dewsbury Amateur Photographic Society on the 5th inst. He had two objects in view—first, to show examples of nearly every variety of lantern slide made, and, secondly, to remove the prejudice against coloured slides so often expressed by photographers In the course of his remarks he quoted, from the Koran, Mahomet's dictum that "Every painter that paints a picture shall be condemned in hell fire," and said that a better judge was John Ruskin, who said we ought to love colour, for nothing in Nature was beautiful without it. It was a historical fact that the ancients used colour before they used shading. All Assyrian pictures were flatly drawn and coloured over. Amongst the coloured slides shown, Mr. Bagshaw said that for effective colouring, blending of shades, and subdued effects, the Japanese were the best.

SNAP SHOTS.

A SMOKING CONCERT was held by the Liverpool Amateur Photographic Association on the 8th inst.

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OZOTYPE WAS DEMONSTRATED at the London and Provincial Photographic Association on the 8th inst.

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THE ADDRESS OF MR. G. R. BECKETT, honorary secretary of the South Norwood Photographic Society, will in future be 28, Carmichael Road, South Norwood, S.E.

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MR. F. C. HART, of 37, Willcott Road, Acton Hill London, W., has been appointed honorary secretary to the West London Photographic Society in place of Mr. J. Brown resigned.

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A COMPETITION FOR PRINTS on bromide paper is being organised by Messrs. T. Illingworth and Co. A thousand packets of bromide paper are being sent out free by the firm, and a £5 note will be awarded to the competitor who sends in the best print before Nov. 30th.

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SOME TASTEFUL EXAMPLES of Christmas card mounts have reached us from H. and W. Green, of the Crown Photo Manufactory, Rotherham. Delicate tints of colour have been employed in these with considerable success Sample packets will be sent post free for 1s., 2s., and 3s

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"SOCIAL LIFE IN ANCIENT EGYPT" was the subject of a lecture by Mr. C. J. Marshall at the South London Photographic Society on the 5th inst. He illustrated their customs in washing, shopping, husbandry, and recreations, amongst the latter being draughts and (police not having been then invented) thimble rigging.

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ENTRY FORMS for the Hove Camera Club's exhibition are now ready. The judges are Messrs. C. Job, Alex. Keighley, and E. E. Manwaring. A special award is offered to the best exhibit at Southsea, Hove and Southampton, and exhibits will be conveyed between the three societies free of charge.

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THE ENTRY FORMS for the Southsea Photographic Society's exhibition are now ready. The judges are Messrs. R Child Bayley, Reginald Craigie, and A. Horsley Hinton. A special award is offered for the best picture at the Hove, Southsea, and Southampton exhibitions, and the exhibits will be forwarded free of charge from one society to the others.

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"FLASHLIGHT PORTRAITURE" was the subject demonstrated by Mr. Homburg at the Pudsey and District Photographic Society on the 8th inst. The lamp he recommended and used was a long clay tobacco pipe. Some cotton wool was wrapped round the bowl, and a length of indiarubber tubing with a glass mouthpiece fixed to the stem. A thimbleful of magnesium powder was placed in the bowl, and the cotton wool moistened with methylated spirit. After setting fire to the spirit, the powder is blown through the flame. To avoid unsightly shadows he recommended a black background, or if a light one is used the sitter should be at some distance in front of it. With full length figures it is desirable to spread a sheet of white paper on the floor to reflect the light to the lower part of the body.—F.C.W.

A PAMPHLET EXPLAINING the action of the Rajar film changing system has been issued by the Brooks-Watson Daylight Camera Co., Ltd., of Abercromby Works, Great Homer Street, Liverpool.

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DR. GRINDROD'S ONE MAN EXHIBITION, at 66, Russell Square, London, is still open, and the Royal Photographic Society announces that several alterations and additions have been made to it.

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THE WINTER SESSION of the Belfast Y.M.C.A. Camera Club was opened on the 5th inst. with the first of a series of monthly competitions in which Messrs. H. Hill, J. Malcomson, and D. W. Elliott received equal marks. Mr. Alfred George lectured upon "How to make and finish a photograph," for the benefit of beginners, and the "Rajar" plate changer was exhibited

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TWO USEFUL BOOKS are "The Science Teacher's Diary" and "The Science Student's Notebook," published, the former at one shilling and the latter at sixpence, by Messrs. James Wooley, Sons, and Co., Ltd., of Victoria Bridge, Manchester. There is in each a mass of information in compressed form, which, while tabulated for the use of the scientific teacher or student, will be found of no less value by the photographic experimentalist.

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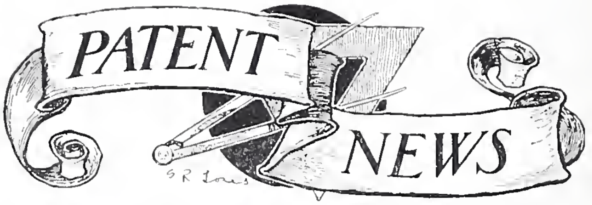
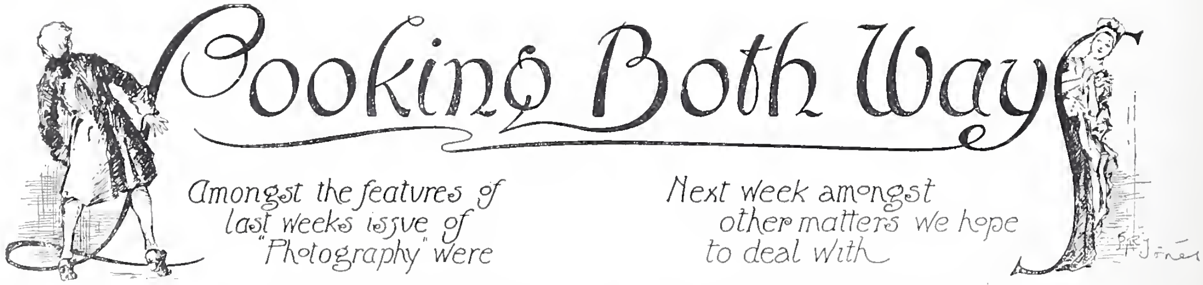
AT THE FIRST INSTRUCTION MEETING of the season at the Borough Polytechnic Photographic Society on the 2nd inst., Mr. W. Page urged beginners to commence with a stand camera. He did not despise the quarter-plate size, but advised the adoption of a half-plate at the outset. He showed a camera devised by himself with a triple extension of 23½in., a front which could be raised 2in. when a lens of 3in focus was used without the bellows cutting off part of the image. It weighed only four pounds. Dealing with the subject of an all round lens, Mr. Page suggested one of 8in. focus, but greater scope would be given with one of 6in. and another of 10in. focus, the former for interior work and the latter for landscape and portraiture.



The following specifications of patents relating to photography have been published, and copies may be purchased at an uniform price of 8d., at the Patent Office. Sale Branch, 25, Southampton Buildings, London, W.C. The price of the specifications includes postage to any part of the United Kingdom. The additional postage to foreign countries is usually ½d. per specification. Postage stamps must not be sent on payment of any amount exceeding 11d. In ordering the name of the patentee and both the number and year of the patent must be given.

1902.

24 5 7.—Milne. Camera attachment for cycles.
25,651.—Reichert. Magazine cameras.
26,248 Daubresse. Stereoscopic cameras and stereoscopes.


Looking Both Ways
Amongst the features of last weeks issue of "Photography" were
Next week amongst other matters we hope to deal with
F. J. Jones

Sulphur toning bromide prints. Two articles, one by Mr. Blake Smith on a direct method and one by Dr. Baekeland on the hypo-alum method.
An Egyptian Haul. By "Anubis."

Making transparencies from collodio-chloride prints.
Celestial photography at Harvard University.
More pictures from the two exhibitions.
Cameras for three-colour work. By Sir William Abney.

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NOTICE TO CORRESPONDENTS

All letters, advertisements, etc., must reach the office on Friday morning to ensure being dealt with in the issue for the next week. In cases of great urgency, letters delivered up to the first post on Tuesday morning may be in time to receive attention, but this cannot be guaranteed

Communications for the Editor should be addressed, The Editor of *Photography*, 3, St. Bride Street, London, E.C.

Advertisement copy and orders, and these only, should be sent to the printing works. They should be addressed ILIFFE & SONS LIMITED, Coventry.

In all publishing matters, letters, orders, etc., should be addressed, ILIFFE & SONS LIMITED, 3, St. Bride Street, London, E.C.

LEADER

An Improvement in Carbon Work.

Our principal article this week, from the pen of Mr. H. W. Bennett, is one which we feel sure will be cordially welcomed by that large class, the carbon printer in a small way, professional or amateur. The carbon process is so delightful in its results, and is (on ready-sensitised tissue) so simple in its manipulation, that it has always been a prime favourite with all who aim at anything in any way better than the ordinary silver print.

Yet the popularity of carbon work has ever been restrained by two powerful factors, the effects of which, interlocking with each other as it were, have been sufficient to deter thousands from taking it up who would otherwise gladly have done so. We refer, of course, to the very poor keeping qualities of sensitised tissue, and to the difficulties of securing the best prints on tissue sensitised by the bath method and not at the factory.

Much attention has been given lately to the removal of these defects. Professor Namias in our own columns a few weeks ago gave the results of his own experiments, made with a view to increase the keeping properties of ready sensitised tissue. The general popularity of the carbon process in the future, we are sure, will depend upon the possibility of dealers keeping a stock and supplying for casual use as required cut pieces of sensitive tissue that shall keep their good qualities unimpaired for at least as long as and with as little special precaution as printing-out paper itself. Whether this pleasant state of things will ever be reached it is difficult at the present moment to say; but it is at least gratifying to think that, so far as the scientific knowledge of carbon tissue and its behaviour is concerned, no reason is apparent why some such development of the process should not one day be an accomplished fact.

In the meantime, we must content ourselves with recording, on the one hand, the work of Professor Namias, by which we are at least brought a step nearer to it by the investigation of the action of certain chemicals which greatly increase the keeping properties of sensitive tissue; and, on the other, the labours of Mr. Bennett, by which he has sought to remove, and has succeeded in removing, some of the drawbacks to the use of home-sensitised tissue.

Those who read his paper carefully will be well repaid for so doing by the account he gives of a method which, in our own hands lately, as in his, has made the use of tissue sensitised at home much easier, and the results of its use much better.

It is so handy to keep a stock of insensitive tissues of the various colours preferred, and to sensitise just a sheet or two overnight as it may be wanted, that the method is well worth trial. The additions to the bath which he recommends not merely improve the results which the home-sensitised tissue is capable of yielding, but facilitate the drying after sensitising—a rock on which many a photographic barque has foundered. With them, it is only necessary to hang the tissue up to dry, away from daylight; gas fumes seem to have no effect upon it, and the atmospheric influences, for a few hours at any rate, do not give rise to any perceptible veil.

The method has one drawback, but that is not a very material one. It lengthens printing considerably, though even then printing is as quick as it is on P.O.P. And, as Mr. Bennett points out, when one aims at getting the best result, a little lengthening of the time taken to get a print is of very secondary importance.

Spirit of the Times

TO PINHOLE WORKERS. We have published from time to time a number of articles upon pinhole photography, notably the very full and comprehensive paper by Mr. Coombe in our issue for July 4th this year. From correspondence with a number of our readers since then, and from the questions that have been put to us through our "Question Box," there is no doubt that the subject is attracting the attention of a good many photographers, and from examples that have been submitted to us there is no doubt also that very fine work and very charming effects can be obtained with pinholes—effects which it is not always easy to equal, not to talk of surpassing, with a lens. One of our correspondents has recently suggested to us that it might be to the mutual benefit of pinhole workers if they were to get into communication with one another, and states that he himself would very much like to hear from others who are interested in the subject. Perhaps his end will best be attained if we give publicity here to his wish, and point out that he is Mr. G. A. Edmonds, of

5, Grosvenor Place, Bath. In his own practice, he tells us that he uses a hole the one hundred and thirtieth of an inch in diameter, and that his exposures are "worked out by the Barnet No. 2 card on the ordinary plate and come out correct every time." so in him we have one more photographer who does not have to know how to save (!) an over or under-exposed plate.

* * *

CHINESE PAPER. On another page this week we publish a short sketch of the history of paper making, an industry the importance of which to photographers is sufficiently evident. In his Cantor lectures on this subject, Mr. Hübner gave a description of the manner in which the Chinese manufacture paper from bamboo cane. The shoots of the plant are first treated with lime, then hammered in order to loosen the bark, and are afterwards bleached by exposure to the action of light and air. The boiling with lime is then repeated, a weaker solution being this time used. After this treatment the shoots are allowed to stand in heaps so that fermentation may proceed, and are then boiled with water in large vessels. The fibres are subsequently made up into bundles and treated with soda lye. The product thus obtained, we are told by Mr. Hübner, closely resembles the material known to paper makers as "half stuff," and after being kept in steeping pits for some time is converted into pulp by prolonged hammering or grinding in mortars; the sheets are made by dipping a mould made of bamboo and silk into the thin pulp. The Chinese dry their paper by pressing the wet sheet on a smooth slab made of plaster of Paris, heated by means of a fire placed underneath. The water is thus rapidly extracted and the paper dried in a very short time; a number of the sheets are afterwards pressed together so as to smooth the surfaces. Wall papers, six to eight yards in length and five to six yards in width, were produced in China in ancient times.

* * *

A GUM BICHROMATE MODIFICATION. The use of iron for gum printing has been suggested from time to time, and there is little doubt that it promises to be an improvement on the older process to a great extent. Those familiar with the modern methods of colour photography will have found how much of the detail in a transparency depends upon the blue print when the latter is made by toning blue an ordinary lantern plate printed from the red record negative, and what a little detail there is when three stained gelatine films are superposed without a black and white image to back them up. In the same way it is possible that the pigment paper may be rendered much more full of "live" detail when an iron salt is incorporated with the gum or colloid. Dr. Lux has written some interesting notes on the subject for the *Deutsche Photographen Zeitung*, and from these we are able to cull the outlines of his methods of working. The paper may be coated with a twelve per cent. solution of hard emulsion gelatine (such as Heinrich's), containing some acetic acid and also some iron solution, the liquor ferri sesquichlorati of pharmaceutical lore being recommended. The iron solution is added until the colour of the mixture is such that a layer two millimetres thick makes white paper look distinctly yellow, and the pigment is then added as usual. Coating should be done with a wide brush, quickly and evenly, at 112° F. The dry paper when exposed should be developed forthwith, as the carbonic acid in the air will oxidise the reduced iron salt, and so destroy the image if kept. A few minutes' immersion in cold water in the dark room removes the soluble iron salts, and when the wash water is no longer coloured the print may be taken into full daylight and developed like a gum print.

* * *

A MODIFIED FERRO-PRUSSIATE PROCESS. The ferro-prussiate process has very justly been called a "neglected process," for, although the pictures when washed after printing are invariably of the blue colour known as Prussian blue, they may be converted into salts, having other tints, many of which are fairly permanent. To the photographer who has the necessary knowledge of chemistry, the process suggests many possibilities, says *Ombres et Lumières*, which may be productive of very charming results. The formula recommended by our contemporary for preparing the paper differs from those we have previously seen, in consisting of iron ammonio citrate and the red cyanide of iron. These are used in the proportion of two to one respectively, and a little hydrochloric acid is added to cause the resulting paper to give a greenish-blue image instead of the customary Prussian blue one. A bath of sodium carbonate and gallic acid will tone the blue prints black; and one containing borax, neutralised with sulphuric acid, leads to tones of a violet-black colour. There is doubtless room for a lot of experimental work to be done with this process, and we can only reiterate what we said in a previous issue of *Photography*, that iron printing papers are on the upward scale, and may possibly in the end prove to be very serious rivals of P.O.P. and bromide paper.

* * *

WARM-TONED PRINTS BY DEVELOPMENT. The day is yet to come when we shall be able to produce red prints on development papers (Velox, etc.) rapidly and after a short exposure; but, by giving a fairly long exposure and a development of considerable length, the red print is already a matter of certainty and easy enough to obtain. By careful arrangement, too, it is possible so to economise time that a very large number of prints may be turned out quickly, as where about ten minutes is given for exposure, several may be exposed at once, and developed equally well in the same dish. Herr Hanneke has described one or two important methods quite recently in *Photographische Mittheilungen*, their novelty consisting of the enormous amount of exposure and absence of sulphite in the developer, together with the use of potassium carbonate in place of the more familiar sodium salt. For the developer half a drachm of a two per cent. solution of hydroquinone, one drachm of a ten per cent. solution of potassium carbonate, and two and a half ounces of water and one drop of ten per cent. bromide solution are mixed. About three times the normal exposure makes this give sepia tones, whilst six times normal, with another drop of bromide to the ounce of developer, give brown tones with a tendency to violet. Gaslight papers will also give after twenty times the correct exposure for black tones a purple-brown or red print with the same developer and a little more bromide. It is to be questioned whether the absence of sulphite in the developer will not be conducive to dirty "whites," although with such very diluted developers we have not found this to be the case as a general rule.

* * *

PRINTS ON JAPANESE PAPER.

Those who are on the look-out for methods of printing that are a little out of the ordinary run may like to try sensitising for themselves some of the fine Japanese papers which can now be obtained from most of the importers of Japanese goods. The papers make an extremely pleasant support for the image, and are at the same time fairly easy to manipulate in spite of their thinness, because they are extremely tough. A writer in the *Photo Era* observes that the paper must first be salted, making the salting solution more adherent by adding a little gum sandarac or pure white gum arabic. A good solution is made by dissolving an ounce of gelatine and fifty grains of ammonium chloride in ten ounces of water. To this are added two and a half ounces of a ten per cent. solution of gum sandarac dissolved in alcohol. The paper is coated thoroughly with this solution, either by floating or by applying with a brush, and dried. When dry it is sensitised with a solution of silver nitrate, again dried, and may then be printed upon. The print may be toned in a combined solution or in separate baths. The combined bath gives the more pleasing tones, and if the solution contains the proper amount of hypo, there is no danger of fading or discolouring. The print is mounted at the corners on deep cream or ivory tinted paper.

* * *

THE DANGERS OF CELLULOID.

Experiments upon the actual film itself have shown that thin celluloid covered on one side with emulsion is not a substance that is dangerously inflammable, and when it is coated with gelatine on both sides, as in the new non-curling films, the inflammability of the thus sandwiched celluloid becomes altogether negligible. But there are more uses for celluloid than this, and as articles made of it get commoner and commoner it is well if from time to time the dangers they present are pointed out. An experience of our own the other day was a reminder which might have been worse, but as it was will amply suffice to hang a warning upon. We knocked the ash off a cigarette into a little imitation ivory ash tray with which the hansom in which we were riding was fitted. The hot end of the cigarette must have been sufficient to light the celluloid of the tray, as it instantly blazed fiercely, throwing out most unpleasantly acid fumes, and was entirely consumed in a few seconds. It is doubtful whether celluloid should be used for collars, combs, and similar articles not intended to be brought into the neighbourhood of a light, but its unsuitability for such a purpose as the construction of an ash tray can hardly be questioned.

The Week's Meetings.

THURSDAY, OCTOBER 15TH.

Glasgow Eastern Mounts and Mounting. J. W. Eadie.
N.W. London Carbon Demonstration. Wellington & Ward.
Liverpool A. Improving Faulty Negatives. F. Anyon.
Handsworth. The Rajar Changer, G. E. Rushworth. Modification of Prints, C. P. Proctor.
L. & P. Henderson Award Meeting.
Ashton-under-Lyne How to Select Mounts. W. Chadwick.
Hull. Enlarging Rev. C. O. Stewart.
Batley. Plain *versus* Coloured Slides W. Bagshaw.
Rodley. Flashlight. B. O. Pearson.
Chelsea. Coxin. W. F. Slater.
Ealing. Annual General Meeting.
Blackburn. The Lancashire Witches. J. T. Smith.

FRIDAY, OCTOBER 16TH.

Croydon Nat. Trade Demonstration. W. F. Slater.
Boro. Poly. Printing and Toning P.O.P. P. C. Cornford.
Reading Stereoscopic Photography. A. H. Dunning.

SATURDAY, OCTOBER 17TH.

Hackney. Outing to St. Paul's Cray.

MONDAY, OCTOBER 19TH.

South London. Lantern Night.
Bowes Park Gum-bichromate Process. J. C. S. Mummery.
Ilford. Lecture. H. W. Bennett.
Halifax. Weights and Measures. B. A. Burrell.
Bradford. Plain *versus* Coloured Slides. W. Bagshaw.
Southampton. Portraiture C. H. Hewitt.

TUESDAY, OCTOBER 20TH.

Blairgowrie. Lantern Lecturette. G. Grant.
Holmfrith Lantern Lecture. Travels in Germany. A. Homburg.
Halifax. Under Italian Skies. J. E. Rice-Jones.

TUESDAY, OCTOBER 20TH *(continued)*.

Goldsmiths' Institute. Rajar Changer. A. Booker.
Heaton. Bromide Enlarging. W J. Routledge.
Thornton Heath. Bromide Enlargement H. P. C. Harpur.
Hackney. Lantern Night.
Glasgow Southern. Bromide Enlarging. J. Ritchie.
Chiswick Members' Lantern Evening. E. R. Wingfield.
Birmingham. Home-made Mounts and Mounting. P. T. Deakin.
Blackburn. Enlarging on Bromide. F. Pincler.

WEDNESDAY, OCTOBER 21ST.

North Middlesex. Printing in Gum-bichromate J. C. S. Mummery.
Everton. Lantern Lecture. Isle of Man J. F. Wilde.
Croydon C.C. How to make Frames. W. Wood.
Woodford. Annual General Meeting.
Leeds C.C. The Negative. J. H. Gash.
Dundee and E. of Scotland. Social Meeting.
Boro' Poly. Photomicrography. W. F. Notman.
Cricklewood. Cristoid Films. Sandell Co.

THURSDAY, OCTOBER 22ND.

East Liverpool. What can be done with a Hand Camera.
Glasgow Eastern. Pictorial Postcards. J Peat Miller.
N.W. London. Lantern Slide Competition.
Chester. Conversazione in Town. Exhibition of Prints.
Handsworth. Printing on Bromide Paper E. G. Collins.
L. & P. Microcinematography. — Barker.
Hull. Members' Folio, Y.P U. Prints.
Bristol. Gaslight Printing Papers. T. J. Crofts.

FRIDAY, OCTOBER 23RD.

Croydon Nat. How to back Plates.
Watford P.U. Time Development *versus* Rule of Thumb. J. Sterry.
Boro' Poly. Bromide Printing. A. M. Usher.

SATURDAY, OCTOBER 24TH.

South London. St. Paul's Cray Common.

Societies will have their meetings announced here if the syllabus is sent to us at the beginning of the Session, or from time to time.

Some Notes upon the History of the Manufacture of Paper,

Taken from the Cantor Lectures on Paper Making delivered before the Society of Arts by Julius Hubner, F.C.S.

FROM time immemorial man has employed the most varied methods for transmitting records of memorable events to coming generations, but probably the earliest evidence of the existence of such records is to be found in the inscriptions hewn into certain Persian rocks. The ancients used pyramids and obelisks, tablets of clay, marble ivory and metal plates, the bark and leaves of trees, as objects upon which to inscribe their records, and also wooden boards, either plain or covered with a thin layer of beeswax.

Prior to the invention of paper, the Chinese painted letters upon pieces of silk, specially prepared with size; the woven mummy bandages, inscribed with hieroglyphics, afford proof of the use of cloth for writing purposes by the Egyptians. If we further consider that skins of various animals, serpents, and fishes, the shoulder bones of sheep, the entrails of animals, etc., have been applied by the ingenuity of man in place of paper, we shall the better appreciate the immense importance of this modern invention.

Parchment and papyrus may be considered as the actual forerunners of our paper.

The former, the invention of which has been erroneously attributed to King Eumenes of Pergamos (263-241 B.C.), was beyond doubt in use long before the time of Eumenes, and consists of suitably prepared skins of goats, sheep, pigs, and other animals. The manufacture and the consumption of parchment attained their greatest magnitude during the Middle Ages; and notwithstanding the fact that an excellent paper, equal in durability to the finest parchment, can now be procured at a much lower price, parchment is still used for certain documents. The term "paper" has its origin in the close outward resemblance of this material to the papyrus, which is manufactured from a water plant, named by the Greeks and Romans "papyros," by Homer and Herodotus "byblos," and by the Arabs "el berdy." The stem of this plant consists of a number of bast-like layers, which are readily separable.

Pliny gives a detailed description of the manufacture of the papyrus, an industry which was already flourishing in 3500 B.C. It is perhaps of some interest to point out here that the Emperor Tiberius and his successors put heavy taxes upon the manufacture of papyrus. These taxes, an ancient form of the paper tax, were repealed by Theodoric, King of the Goths, but were enforced again in various countries after his time, to be at last finally abolished in this country in 1861.

Paper consists of a thin leaf-like fabric prepared by reducing a mass of fibres to a state of minute division and depositing it from suspension in water by aid of a sieve. This method of manufacture was apparently introduced by the Chinese, and Tsailun, who was minister of the interior in 123 B.C., is generally credited with having made this important invention; he is said to have used as the principal raw materials the bamboo cane and the bast of the paper mulberry tree, *Brusonetia papyrifera*. The secret of making paper soon found its way from China to Korea and Japan, and the latter country especially has obtained a world-wide reputation for the manufacture of papers remarkable for their strength, durability, finish, and beautiful appearance. From the East, the secret of making paper travelled to the West, thanks to the Arabs, who during the wars acquired this valuable knowledge. Damascus and Mecca were centres of a flourishing paper industry at an early date. Numerous paper mills were in existence in Egypt during the tenth century, and from the beginning of the twelfth century, or even earlier than this time, paper mills were in existence in Italy. Paper making was introduced into Spain by the Moors, and its existence as an industry in France has been traced back as far as the end of the twelfth century.

The Village Coquette. *By Mrs. Barton.*
An article on Mrs. Barton's photographs appeared in our issue for July 25th, 1903.

Animal size was found by Briquet in papers of Italian origin, made in 1271, and the invention of the water-marking of papers has also been attributed to the Italians.

Authentic proof has been given of the existence in Germany of a paper mill erected by the Brothers Holbein in Ravensburg in the year 1336, and by Stromer in 1390 in Nuremberg. From the fourteenth century onwards the industry developed and flourished in Germany, until it received a serious check in the thirty years war (1618-1648). Among the numerous paper mills erected after the war, the one at Spechthausen, founded in 1781 by the famous French paper maker, Jean Dubois, deserves mention. It is still in existence, and is well known for the manufacture of hand-made papers, and more especially of bank-note papers for the German Government.

Switzerland and Holland were well in the foreground among the paper-making countries during the fourteenth and seventeenth centuries. After the repeal of the Edict of Nantes (1598) many of the best French paper makers emigrated to Holland, Germany, and England, and shortly after the Dutch "hand-mades" commanded the markets of the world.

Koops has stated that the existence of a paper mill, situated in or near Stevenage, and belonging to John Tate, was referred to in a book printed by Caxton about the year 1490. The existence of this mill is also certified to by two entries in the household book of Henry VII., namely, one dated May 25th, 1498, "For a rewarde geven at the paper-mylne, 16sh. 8d."; and the other in 1499, "Geven in rewarde to Tate of the mylne, 6sh. 8d."

The German jeweller, John Spielmann, who was knighted for his services by Queen Elizabeth, erected a paper mill in the year 1588 at Dartford. Spielmann, however, made only coarse papers, all the finer papers being imported from other countries, and principally from Holland and France. It is very probable that Shakespeare refers to Spielmann's mill in the following lines:

> "Six hundret men are set to work by him,
> That else might starve or seek abroad their bread,
> Who now live well, and go full brave and trim,
> And who may boast, they are with paper fed."

Whatman studied the art of paper making in Holland in 1770, and afterwards founded at Maidstone the mill which has still a world-wide reputation for its superior hand-made papers. Previous to the year 1700 rags were disintegrated and converted into paper pulp by a very tedious operation termed "stamping," but about that time special cylinder machines were invented and actually used in Holland.

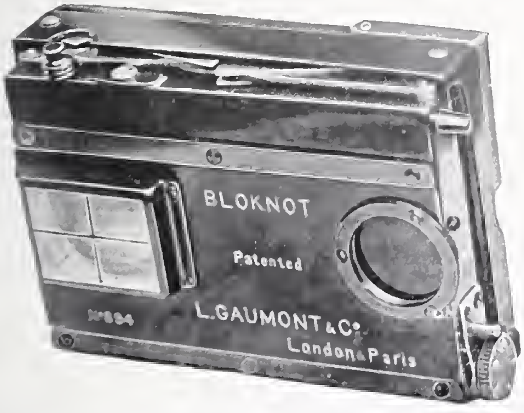
The invention of the "Hollander" or "rag engine" made it possible to secure an increased uniformity in the pulp, and resulted in a considerable saving of time and power; these improvements soon showed themselves in a rapid development of the paper industry. A complete revolution of the paper-making industry, and of many other manufactures and arts, was brought about by the wonderful invention of the paper-making machine by Louis Robert, a workman in the paper mill at Esonne, in France.

The student who wishes to study this part of the history more fully will find some excellent articles upon it in the *World's Paper Trade Review* of 1897 and 1898.

Report upon the Bloknote Camera of Gaumont & Co.

WE have now had an opportunity of putting to a practical test the Bloknote pocket camera recently put upon the English market by Messrs. L. Gaumont and Co., of Paris and London. The workmanship, for finish, accuracy, and durability, leaves nothing to be desired. The little single dark slides are particularly well made, and carry plates on specially thin glass measuring 6 by $4\frac{1}{2}$ cm. or $2\frac{5}{16}$in. by $1\frac{3}{4}$in. The plates supplied are by Messrs. Lumière, and therefore excellent.

As will be seen from the illustration, the camera pulls out to its working extension, and is retained with absolute rigidity in that position by means of four struts jointed on the knife-blade principle. The front panel slides along, so as to bring the direct finder clear of the camera body, carries the circular opening in front of the lens, and at the same time sets the shutter. At the back of the camera is a folding eyepiece for sighting through the finder, and the view thus seen accurately represents that included on the plate. A dark slide can be carried *in situ* with the shutter ready drawn; and the time taken to set up the camera, take a photograph, and close it again is incredibly short.



The lens fitted to the camera we used was a Zeiss Protar working at f/9. This is sent out, according to the makers' statement, so that "the maximum degree of sharpness is on infinity." A slight turn in the mount with a key provided adjusts the focus to objects 30ft. distant. We used the camera only with the lens adjusted in the latter way, and the definition was exquisite. It is difficult to realise any difference in definition made between objects at 30ft. and at infinity with a lens of such short focus; according to the usual method of calculation a 4in. lens at f/9 should render all objects equally sharp from about fourteen feet onwards.

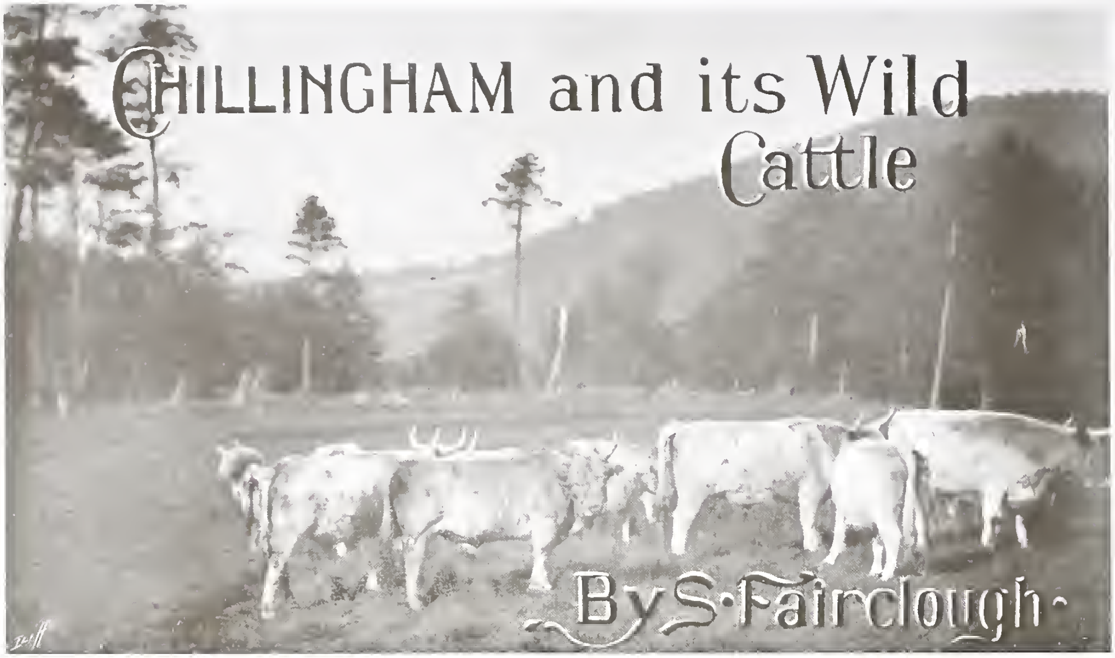
The shutter (in addition to "time") can be regulated for automatic exposures of $\frac{1}{4}$, $\frac{1}{8}$, $\frac{1}{16}$, $\frac{1}{32}$, and 1-64 sec., but it is doubtful whether the highest speed marked is as rapid as it is supposed to be. At any rate, we found as the result of our own trials of the camera that it is not sufficiently fast for persons walking rapidly across the field of view at moderately close quarters, while with the aperture and plate used it would be impossible to avoid over-exposure with brightly-lit sea views, for example.

Again, if a rising front is essential at all, it is as much a necessity on a small camera as on a large one. In one sense it is more so, because in the latter case it is possible to use lenses of shorter foci to meet difficulties of inclusion of tall objects.

We have dealt with this little camera at some length, because we believe that there is a wide field of useful work for an ever-ready pocket camera of reliable workmanship and good performance, and we think that the instrument in question is the most serious and successful attempt yet made to meet this need. But as such a camera can in any case only supplement, and not replace, the more generally used types, it is absolutely necessary, in order to make it really popular, that the price of such a camera should be reasonably low.

"The Walrus" in "Pitlle" referred to the Bloknote as costing about £1 per ounce. This is hardly the case—the camera we used weighed 16 ozs. and cost £8—and although it is not dear at that price, it is sufficiently expensive to place it in the category of luxuries as far as the ordinary photographic worker is concerned.

We should like to see Messrs. Gaumont go still further and produce a camera on similar lines to take half quarter-plates ($3\frac{1}{4}$in. by $2\frac{1}{8}$in.), with rising front both ways, adjustable focus, variable stops, and a slightly higher maximum shutter speed. This may be asking a great deal, but makers who can produce such a beautiful little instrument as the Bloknote undoubtedly is are not likely to be deterred by difficulties; and we think that such a camera as we suggest at a fairly low price would meet with a large and ready sale.



CHILLINGHAM and its Wild Cattle

By S. Fairclough

CHILLINGHAM, in Northumberland, famous in song and story, was anciently held of the barony of William de Vesy, by Walter de Huntercombe, and afterwards became the seat and manor of the Greys of Wark, later on it passed into the ownership of the Earl of Tankerville. The castle stands on an eminence surrounded by trees. It is a square, somewhat heavy structure, four storeys high in the wings, and three in the centre The north-east tower dates from the time of Henry III., and the centre was rebuilt in the reign of James I. in the Renaissance style, having been designed by Inigo Jones.

There is a legend attached to a fine marble mantelpiece in it, that in sawing the slabs from which it is built a living toad was set free. The gap has been filled with cement, and still remains to vouch for the truth of the story. A painting of the toad was executed at the time, in which, as one writer puts it, the amphibian was represented as being of the size of a hat. Amongst the historical portraits on the walls are those of Bacon, Burleigh, Buckingham, Charles I., and James II.

The celebrity of Chillingham, however, is due above and beyond all to its famous herd of wild cattle, familiar to those who are not interested directly in such things by the well-known incidents in "Verdant Green." Originally, we know from the ancient chronicles, the forests of at any rate the northern parts of our island were frequented by wild cattle. The Wizard of the North tells how—

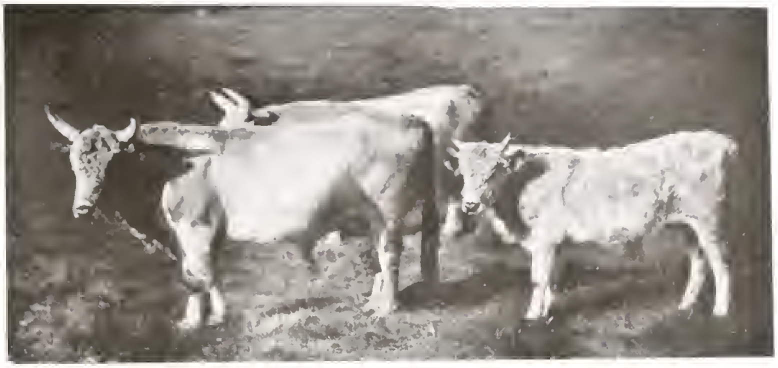
> Mightiest of all the beasts of chase,
> That roam in woody Caledon,
> Crashing the forest in his race,
> The mountain bull comes thundering on.

The relics of these cattle are found not merely in Scotland and England, but also in certain parts of the Continent—the particular species being known as the Urus (*Bos primigenius*). It is from the Urus that some of our present breeds of domestic cattle are sprung, and, although they are now of very diverse colours, it has nevertheless been noted by Darwin that when domestic cattle run wild the herds seem to have a tendency to become white. White is supposed to have been the colour of the Urus, and white is unquestionably the colour of the Chillingham cattle, as the illustration to this article shows. It is only right to point out that the whiteness, however, is maintained by separating all those that show any colour from the main body of the herd.

Chillingham is eminently suitable as a home and resting place for such relics of the past. An enclosed park for at least seven centuries, its wide stretches of wild and unfrequented forest afford them just the seclusion which they seem to prefer. The cattle, we are told, hide their young, feed in the night, basking or sleeping during the day, they are fierce when pressed, but generally speaking very timorous, moving off on the appearance of anyone, even at a great distance. If, however, the visitor continues to approach they in turn make a partial charge at him, wheeling round while yet at a distance, again to return. At

Chillingham Castle. *Godfrey Hastings.*

each charge they diminish the distance, and should the visitor maintain his ground they will finally charge home. They are white, with red ears and a brownish muzzle, with the eyes, eyelashes, and tips of the horns black, and are in every sense wild. They are short-legged, straight-backed, and when full grown weigh from forty to sixty stone. As in the case of most wild animals, old and diseased individuals are set upon and killed by the herd. The individuals which are kept at the London Zoological Gardens show no signs of either the timidity or the ferocity that distinguish the wild herd, but eat tamely enough from the hand of the visitor.



Wild Cattle, Chillingham. *Godfrey Hastings.*

The park, which is extensive in size, is surrounded by a plantation, and on a rocky eminence at one end is a circular double entrenchment, called Ros, or Rhos Castle. This is undoubtedly a British fort, and in the Celtic and Gaelic, Ros or Rhos signifies a promontory. There is also an ancient chapel within the park. This is a small edifice with a Norman doorway, in the chancel of which is a richly sculptured monument erected by his descendants to Sir Ralph Grey, who was slain at the battle of Towton in the Wars of the Roses.

QUESTIONS AND REPLIES

Readers wishing for information upon any specific point in connection with photographic theory or practice are invited to make use of the "query form," which will be found amongst the advertisements. All enquiries must comply with the conditions stated upon the query form; those which do not do so are neither acknowledged nor answered. All enquiries are answered by post. We cannot undertake to make replies in the paper. We print below from time to time a selection from the queries we receive, and our replies.

DEFECTS IN CARBON TRANSPARENCIES.

I have been making some transparencies by the carbon process, and find that one or two of them are marred by dark diagonal lines across the print. Can you please state the cause, and how they may be avoided?

The defects are such as would occur if the stripping off of the backing paper was checked part of the way. Wherever such a check occurs a dark line is certain to be formed, and can only be removed with difficulty. If the tissue has been at all underexposed it will be almost impossible to get rid of them without washing away the lighter half tone. With well-exposed prints the prolonged development necessary may allow of the lines being washed away till practically invisible, but in all cases the backing should be stripped off with a steady uninterrupted pull.

PHOTOGRAPHING ON THE CONTINENT.

I am going shortly to Dieppe, Rouen, Beauvais, Havre, and possibly Amiens, and wish to photograph the various cathedrals and churches of note, and should be glad to have the following information: To whom should I apply for permission to photograph interiors and exteriors? Which are the best cathedrals in the districts mentioned? What are the fees, if any, and what are the hours during which photography is permitted? Is there any trouble in getting plates through the customs, or would it be better to use films and carry them in my pockets?

Minor churches there will be no difficulty about. Permission, as a rule, is not required, or if necessary is obtained from the custodians. National monuments, under which heading are included all cathedrals, can only be photographed by permission obtained by application in writing to the Minister of Fine Arts, Paris. There is no fee as a rule, but the Suisse usually expects a tip. Photographing is permitted at any time, except when services are going on. These times vary. We have never experienced the slightest difficulty in getting two or three gross of plates through the custom house. We should advise that a guide should be consulted as to the

Chillingham Church. *Godfrey Hastings.*

best cathedrals and churches in the district; so much depends upon what the photographer is personally interested in.

SEPIA-TONED PRINTS.

In *Photography*, p. 95, there is a beautiful print of fruit, the colour of which strikes me as perfect. Apart from printer's ink, is there any process which will give this tone? I cannot get platinum to yield it, nor is there any autotype tissue at all like the colour. Would uranium be of any use? I am anxious to make a collection of landscape studies in such a tint.

We think that the transparency tissue of the Autotype Co., particularly when transferred to toned paper, would be near to the tone of the ink used. Platinotype paper, toned with a mere trace of mercuric chloride in the developing bath and used hot, will give a nice approximation to the colour. The printing ink we used is called light sepia, but, of course, sepia is very vague. Uranium would not be at all likely to give the colour, nor is there any platinum toning process that would be at all likely to hit it. For a collection of landscape studies in such a tint, we should certainly use carbon, and we believe that among the tissues now on the market one would certainly be found very near to the colour.

COMBINED TONING AND FIXING BATH.

Will you please give me a formula for a good combined toning and fixing bath for warm tones, one which does not contain alum nor lead?

We cannot recommend any combined toning and fixing bath as being absolutely satisfactory, but the following contains neither alum nor lead, and is as good as any other combined bath. Dissolve sixty grains of sodium tungstate, one hundred and sixty grains of ammonium sulphocyanide, and two ounces of hypo in four ounces of hot distilled water. Add four ounces of cold water (also distilled), and then add six grains of gold chloride. One danger with a combined bath is that it is likely to be used after the gold is exhausted, and another is that the prints may be removed before they are thoroughly fixed. When warm tones are aimed at, a brief immersion in the bath is sufficient, but it should be supplemented by immersion for ten minutes or so in a plain hypo bath.

VARYING CONTRASTS ON BROMIDE PAPER.

Is it a fact that the contrasts in a bromide print can be modified by varying the distance at which it is exposed to the illuminant? Does a four volt incandescent lamp give sufficient light for printing rapid bromides (half-plate size), or, if not, is a gas flame with a bye-pass to be recommended for this purpose?

There can be no doubt that the contrasts on a bromide print are altered to some extent by varying the distance at which it is exposed to the illuminant, or, what comes to the same thing, by varying the strength of the illuminant. The difference is not a very great one, but there certainly is a difference. An incandescent glow lamp of the power named will give quite sufficient light for printing half-plate bromides, although we should prefer a bye-pass gas flame. There should be interposed between the flame and the negative a sheet of ground-glass, and this should be several inches from either.

NOTICE TO ENQUIRERS.

Answered by post—G. A. Wotherspon, F. H., Ernest Evans, F, Hodsoll, T. S., G. L. Armfield, Klito, W. Schmidt, D. L. E., Professional. G. J. Knight, A. P. E., Disgusted, L. J. C., An Old Subscriber, G. W. W., Bristol, Fred Trent, W. T. Brass, F. G. Brooke-Fox, E. L. D., H. F., W. N. Barnet, C. Morris-Twyne, S. F. Talbot, Rev. E. H. Day, H. Willis, J. C. R., H. J. O'Brien, Hon. Mrs. Margetson, R. Browne, S. T. M., K. Gray, W. W. N. W., Miss Christie, R. D. Thicknesse, G. Whitehead Liverpool, F. J. S., Subscriber, Thos. Dickinson, A. Charles, J. C., E. W. Enfield, Paget Prize, T. P., Roger Harrison, J. J. Stevenson, T. P. Baldwin, Meto Quinol, Apprentice, M. L. A., B. C. Meade, W. Mitchell, T. Probert, Brass-bound, Vincent Smith, Enammo, Miss E. B., G. R. Symonds, Cristoid, C. W. Dales, P. Turner, Alpha, D. Worrall, Challenge B., C. R. C. Holt, Bromide, T. B., Mrs. Clifford Smith, J. Sharples, J. W. B. Stubbs, Malta.

The Technical Section at the R.P.S. Exhibition.

THE scientific, technical, and photomechanical exhibits at the New Gallery this year are of more than usual interest by reason of the inclusion of examples from the permanent collection and the numerous contributions made in response to the invitations sent out. Although appealing directly to those engaged in scientific and general experimental work, the collection in the balcony should not be neglected even by those who find their delight in the most elementary uses of the camera. On entering by the stairs near the West Room, the first twelve exhibits are of astronomical and spectroscopic subjects.

Sir Norman Lockyer

contributes spectra of Nova Persei, the sun's chromosphere, Cygni, meteorites, and of calcium and iron, and a diagrammatic sectional drawing of the 9in. prismatic reflector showing the arrangement for photographing stellar spectra. Interspersed with these are photographs of eclipses of the sun contributed by

The Astronomer Royal.

In No. 382 we find sixteen radiographs showing the various stages in the incubation of a pigeon's egg. In this series

W. M. Martin

has been successful in rendering the differences in density between the air space in the egg, the half-formed embryo and the fluid matter surrounding it. Those who have only seen the phases of a splash of milk as reproduced by the half-tone process should not fail to examine the original photographs exhibited by

Arthur C. Banfield,

and note that the emergent jet in its brief career takes the twisted form to which all flowing fluids have a tendency.

Mr. F. J. Mortimer,

whose seascapes hang in the pictorial section, has in Nos. 385 and 386 two subjects quite distinct from his usual motif. The portrait study by artificial light approaches nearer in results to daylight work than most pictures produced in that manner, and "In the Stokehold of a Battleship" is worthy of the position it holds near the work of

Fred Marsh and J. C. Barrow.

The "Festiniog Slate Mine" of the latter is a classic example of what may be accomplished by the use of artificial light, and the swing of the figures in Nos. 390 and 391—"Charging Retorts" and "A Cooler"—by the former go far to remove the reproach from photography that it can only suggest arrested motion. Following these come a number of photographs from balloons by

W. W. Jennings, Capt. Moris, and Rev. J. M. Bacon.

Capt. Morris contributes telephotographs of military subjects taken from aloft that are microscopic in detail, while those of the Rev. J. M. Bacon are broader in treatment and magnificent in effect, as will be expected by those who saw his work recently produced in our pages. The cloud studies of

Capt. D. Wilson-Barker

are those of the higher strata in which it is so difficult to secure printing contrast—a difficulty he has successfully overcome. At this point of our progress we again meet with the radiographic work of Mr. W. M. Martin, who exhibits a series of forty prints showing the evolution of the frog from the spawn. The change from the tadpole stage and the absorption of the tail during the period the reptile is unable to capture food are the most interesting part of the life history shown.

Dr. Vaughan Cornish

exhibits from No. 407 to 412 (and in lantern form farther on) the snow pictures we printed some time back, with others previously exhibited. The rippled surfaces produced on snow, water, sands, and clouds by the pulsating effects of wind and waves form subjects for life-long study that may be followed by all who have wide expanses in which to make their observations. Adjoining these are studies in natural history by

Douglas English and A. Radclyffe Dugmore.

With most of Mr. English's fine exhibits we are familiar, but there are three frames of new subjects that extend the list of field creatures he has dealt with and maintain his reputation. Mr. Dugmore's exhibits are of American fish. The "Blue Fish" (No. 425) is as fine a piece of work of the sort as we have seen.

R. B. Lodge

shows a frame of sea birds, taken with a telephotographic lens, perfect in technique. The set of prints by the Lumière N.A. Co., Ltd., in three colours are far from perfect in the rendering of the natural tints, but the stereoscopic transparencies (No. 588) by the company are better examples of the same process. A very fine series of botanical subjects is that contributed by

Henry Troth.

Nos. 435, "Mountain Laurel," and 441, "Magnolias," will detain the horticulturist in his perambulation and claim the admiration of the most expert photographer. A similar series lent by

Sir W. T. Thiselton-Dyer

is equally interesting, though not exhibiting the same control in lighting and perfection of technique. Most of them appear to have been photographed many years ago. The leaf of the *Manicaria saccifera* overlaps the Carib indian lying in its folds, and the branch of an orange tree bearing seventeen oranges in a compact mass is a curious example. Botanical photomicrographs 556 to 574 are at the other end of the corridor.

Alfred Watkins

sends a series of negatives on different brands of plates and prints on various bromide papers, Nos. 466-467, all developed by the time method, so uniform in quality that they will convince all but the wilfully sceptical of the advantages attending the method. No. 470 by

J. Hort Player,

an example of a process which few are able to work quite so successfully as the inventor, should be searched for by those who take an interest in experimental work, as it might easily be passed over as belonging to the photomechanical work surrounding it. There are several other examples later in the catalogue which ought not to be overlooked. From here to the end of the corridor are numerous examples of photogravure and other photomechanical processes.

Displayed on tables here are numerous photomicrographic slides of crystals in polarised light, and of pathological specimens in colour by the Sanger-Shepherd method by

Albert Norman,

and a cabinet of stereoscopic transparencies by the same process, No. 503, by

E. P. Reynolds,

of which Nos. 5 and 10 show the most natural effects of colour. From 516 to 530 are prints by the three-colour process by

Miss Acland and W. E. Brewerton,

and among the work by the latter are some of the finest examples that have been exhibited. Photographs of concretionary structures by G. Abbott and photomicrographs by Edward Leaming lead to Dr. Tempest Anderson's photographs of the eruption of Mont Pelée, from which the explorers had a narrow escape. From here No. 537 on to No. 552 are bold telephotographic enlargements by F. Boissonnas, M. Mario, T. R. Dallmeyer, Bagot, Molesworth, Ernest Marriage, and the late W. K. Burton, covering the walls. Following these are the photomicrographic test objects by

E and H. Spitta

medalled at the Paris Exhibition, and other fine work by the same exhibitors.

Mr. Edgar Senior's

photomicrographs of transverse sections through photographic films, in one instance enlarged up to 11,000 diameters, were dealt with in our columns a fortnight ago. The original photographs should receive attention, as also the photomicrographs of steel and iron lent by the Great Eastern Railway Co.

There are also in this section many other exhibits of great interest, which pressure on our space compels us to pass unnoticed.

"The time has come, the Walrus said, to talk of many things."

WE are generally in the habit of considering our American cousins as being not only up to date, but considerably in advance of it. They set the pace for the rest of the world. Hence it is startling to find that the "latest fad" in American society is composite photography—that is, making a print from a number of negatives of different persons taken in and from the same position. Well, all I can say is that that was an old game when I was a boy, and that's going pretty far back.

* * *

Moreover, the other day an up-to-date American society gent walked into his friend's den (it's always a den in these yarns), and promptly fell in love with a photograph on the wall. It represented (according to the *Sun*) "the *female* face of a *girl* about twenty-four years old, with large love-lustrous eyes and waving brown hair. She had a round intellectual face and a dainty rosebud mouth."

* * *

The society gent promptly declared to his friend in the den that if he could find the girl herself he would marry her on the spot. (I believe they *can* do it as quickly as that in America, and undo it quicker still.) Then of course came the reply from the denizen of the den that the society gent would have to go to Utah and become a Mormon first, because the portrait was that of a whole class at Vassar College!

* * *

Now it seems to me that this particular composite portrait was an advance on those I remember seeing in my boyhood's days. I can understand the age being "about twenty-four," because, naturally, when you dump down on one spot a lot of portraits of persons whose ages vary from sixteen to forty + *x*, it is obviously necessary to strike some sort of average, and take the rough with the smooth, as it were. I can also follow the statement that the eyes were large, because, as all the eyes do not coincide (as Euclid would say), they cover in the aggregate a pretty considerable area. But I don't remember any love-lustre in those I saw. Perhaps I was not of an age to recognise it.

* * *

However, what I jib at most is the "dainty rosebud mouth." That will never do. The mouth follows the example of the eyes. Nay, in the matter of spreading, it excels them mightily; and it is a lucky composite portrait in which the mouth terminates anywhere on the forward side of the ears. In every case I have seen the mouth is less like a rosebud than like a chart of the Suez Canal.

* * *

Anyhow, I really did think that our American friends had got a bit further through their history books than the place where they learn to make composite portraits, and I hereby tender them a piece of information that will carry them well forward towards the epoch in which we now vegetate:—

* * *

"Queen Anne is dead."

* * *

A practical retoucher has made a negative by taking a densely-developed blank plate and working on it with knife and pencil. A paper reporting the fact states that it took "several hours of intermittent work." Exactly. He had to stop to sharpen his pencils and his knife. And then there were the intervals in which he was struggling with his keepers.

* * *

If, gentle reader, you are contemplating the purchase of a fresh supply of printing-out paper, I would bid you pause. You will save money by delay. There is a cheaper paper coming along in a minute. Although it is cheaper, it is sensitised with three separate emulsions. The picture appears black at first. Don't be discouraged at that. Dip it in petrol. (Any motorist will let you have a dip in his tank if you stop him.) Place it in the sun. (The sun still shines, they say, in other lands.)

* * *

And then—then, gentle reader, the picture assumes all the brilliant colours of Nature. I repeat, all the brilliant colours of Nature. Fact. Read it myself. In a newspaper. Man named Szczepanik has done it. Not an Englishman, I believe, but evidently a brainy chap. Eh? You've been had like this before? Well, now you mention it, perhaps you had better buy another packet of P.O.P. just to go on with. Perchance, Szczepanik is not quite ready to open shop.

* * *

The Globe publishes the following paragraph: "Mr. J. W. Kime has obtained photographs by putting a gelatino-bromide plate in the mouth between the teeth and cheek of the subject, and exposing the cheek to sunlight during forty seconds. A thick black beard was found to diminish the effect of exposure. A negro subject gave a still worse result."

* * *

It is by no means clear what the photographs thus obtained were, but presumably as the beard interfered with the result the pictures were of the objects towards which the cheek was directed. "A landscape as seen through the cheek" may be the title of future photographs. Also "Haddon Hall from the occupier's mouth," "Buckingham Palace from the King's cheek," "Sheep from the shepherd's chops," etc.

* * *

The exposure indicated is much shorter than one would have expected, but as some people have a good deal more cheek than others, a considerable increase would probably be required in some cases. Evidently a negro has not the cheek for such experiments, and a highly rouged countenance would probably be fatal to the best work. It is therefore desirable to avoid *rouge et noir*. (The point of this joke will become apparent on reference to a French dictionary.)

* * *

It is to be hoped that others besides Mr. J. W. Kime will produce cheek photographs. In carrying out experiments no reference need be made to biting definition, or the bi-gum process; neither must it be concluded that stopping up teeth will have the same effect as stopping down a lens.

* * *

Gelatine being nourishing, it is perhaps allowable for the person in whose cheek the plate is placed to assimilate unostentatiously a small quantity of the emulsion, but it is distinctly bad form to gnaw the glass or nibble the latent image. Any gashes made in the cheek by the plate should be carefully sewn up before further exposures are made.

* * *

As no accounts of these interesting experiments were forthcoming in the photographic papers, it has once more been demonstrated to what an enormous extent we are under obligation to the lay press for really up-to-date information on photographic work and progress.

THE WALRUS.

SUBSCRIPTIONS.

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PHOTOGRAPHY

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Blowing up for rain. *By Henry W. Bennett.*

Cameras for Three-colour Work. By Sir W. de W. Abney.

Special to "Photography."

At the time of writing the writer is engaged in securing landscape negatives for three-colour work, to be utilised either by the Ives method of projection or by the Sanger-Shepherd process. The negatives are being made in various parts of Switzerland, at high and low altitudes, and it is as well to put on record the experience that has been gained in regard to the camera employed, and also to suggest improvements to it.

The camera which is being used is a quarter-plate one, which Messrs. Sanger Shepherd and Co. have fitted with the necessary screens to go in front of the long plate on which the three negatives have to be taken. As there is only one lens to the camera, this entails three separate exposures, their length with the spectrum plate being in the ratio nearly of four for the red, two for the green, and one for the blue. These ratios are as nearly perfection as possible, and are secured by darkening the blue screen by a neutral tinted glass, otherwise the blue exposure would be considerably shorter. It is found that with f/22 the red on a bright day requires about thirty seconds' exposure, and, of course, this exposure is increased on dull days or late in the evening.

Now as regards the results. The negatives taken may be said to be good as a rule, for there is no occasion to trust to the advertised speeds of shutters, which are usually very incorrect. The operator, if he has experience, will be able to judge how many seconds the red will require differing from the normal exposure, and a watch with seconds hands will enable him to be certain that he has given it.

So far there need be nothing wrong with each individual component of the triple negative, but that is not everything. They must necessarily differ so far as the rendering of colour is concerned, but they may also differ in light and shade, which they should not do.

July was a very cloudy month in Switzerland. The clouds travelled more or less fast, and cast their shadows on the hillsides and plains; and these shadows travelled with the same velocity as the clouds.

The "blue" and "green" negatives may show the side or the patch of a hill in shade, whilst the red negative may show it in bright sunlight. The result is that the hillside, or patch of hill, when the prints from the three negatives are combined, will show it as decidedly red, when it ought to be, say, stone colour or green. A moving cloud may be shown as having a red fringe at one side of it and a blue fringe at the other. Of course, with a perfectly clear sky or when the whole heavens are overcast this does not arise, and it is only under these two conditions that a landscape triple photograph will be of necessity free from these flaws, though much may be done by careful watching of the cloud and sun.

What is required for landscape work of this nature is a camera having triple lenses, or, at all events, a camera where all the exposures are given at once. Mr. Ives introduced a camera in which only one lens was employed, the three component negatives being taken by the main image being partially reflected to different parts of the plate through the three screens. As the partial reflections are usually made by plain glass mirrors, there is an evident difficulty in securing sharp images, and the camera itself requires care and skill to keep it constantly in adjustment.

Mr. Sanger Shepherd introduced a camera with a single lens giving the three exposures at one time, but we have not heard how far it has answered his expectations.

The camera that would suit this landscape work is one with three lenses, so that the exposures would be made simultaneously, though it has its drawbacks. Suppose it to be one that each negative is of quarter-plate size, it is evident that each outside lens will be at least three inches from the centre lens, and this constitutes a total displacement of the outside lenses from one another of six inches, and a stereoscopic effect will be produced. If, then, a landscape with *near* foreground has to be taken, on combining the outside pair of negatives in a print the latter may show slight fringes. It is worth while to calculate at what distance these fringes will disappear or become negligible.

When a point in an object taken by two lenses at some distance apart comes within the one-hundredth of an inch on the negative when measured from some object very distant, the double colour will certainly not be seen. That is to say, if the object be 600 feet away, allowing for some magnification, the points will coalesce on the screen.

Now, it is convenient that the green screen should be in the centre, and in the Ives or Sanger-Shepherd methods of combining the colours the blue negative may very markedly show a fringe in the combination, and be almost invisible; so that we may take it that if prints from the red and green negatives do not show a fringe the result will satisfy the observer. This reduces the distance at which the three negatives will coalesce to 300 feet, so that if the foreground be limited to that distance the combined prints will be as perfect as required.

We may go further, and say that if the points fall within one-fiftieth of an inch they will not be markedly altered in parallax, in which case we may have a portion of the foreground only one hundred and fifty feet away.

Now, with a three-lens camera, the exposures can be made simultaneously by a flap shutter, and it matters not as to moving clouds and shadows, for they will move equally in all three negatives. Taking the screens which we at present possess, the relative exposures can be obtained by difference in the diaphragms. Thus, for the red the diaphragm might be about f/16, for the green f/22, and for the blue f/32.

When we say *about*, we mean that there may be some slight correction to make, for using intensity of image with uniform time of exposure, instead of different time exposures with uniform intensity of image. With the single-lens camera of Ives, where the three exposures are given at one time, of course the difficulty does not arise.

What is required is that some ingenious person should set his wits to work and invent a camera which will answer the purpose. It is comparatively a simple problem, if shake in the camera is not considered. Such an apparatus intermittently to reflect the image totally to one side and then to the other, leaving a central exposure as well, is not difficult to work out, but any apparatus to act within the camera itself cannot be contemplated, unless it be worked on a separate stand and is perfectly separated from lens and plate.

Transparencies from Collodio-chloride Prints.

THERE are many photographers who would like to make transparencies but dislike using glass plates for the purpose, because they "cannot see what they are doing." The following notes show a means of getting over this difficulty recommended by Miss Saddington in *The Camera*.

The first thing is to clean the glass to which the print is transferred. To do this, it is placed in a mixture of equal parts of (commercial) nitric acid and water, completely immersing it, and leaving it in twelve hours. Old plates must have the films removed by scrubbing with hot water and washing soda first. The glass when taken from the acid is well scrubbed, giving particular attention to the corners and edges, washed in clear water, and then upon its clean surface while still wet is poured a solution of fifty grains of gelatine, and three grains of alum in four ounces of water. The gelatine is first left for a quarter of an hour in a glass or graduated measure to swell, and then dissolved by placing the latter in warm water. After complete solution the alum is added. The solution must be kept warm, as it will set to a jelly if allowed to cool, and filtered before use.

The print is made by taking a piece of collodio-chloride paper and printing until the high lights begin to appear bluish—indeed to such a depth that the picture is only visible by looking through it by transmitted light; but if opal glass is to be the support, printing need only be a trifle deeper than for an ordinary print intended to be mounted on a card.

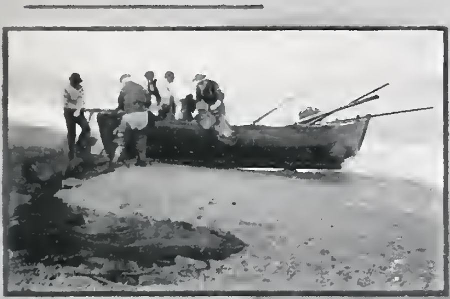
After toning the prints until the desired tone is seen on looking *through* them (viewed on the surface they should have a deep slate colour) they are fixed; after which fifteen or twenty minutes washing will suffice.

The print is then placed in a porcelain dish, rather larger than itself, and boiling water (it must be boiling) is poured on. After a few minutes the collodion film becomes detached at the corners. The paper is slid from the film, and the film is left in the water until the latter is cool. The cooling may be accelerated by the addition of cold boiled water. The prepared glass is then placed under the floating film, film side up, and guided to its position by means of a soft brush, guarding against air-bells. The glass plate, with the film on it, is taken carefully out of the water, the water allowed to drain off it by inclining it, and the whole placed horizontally on a slab to dry. After thorough drying, the adherent material, which is baryta, is removed by carefully rubbing with a pad of moist cotton.

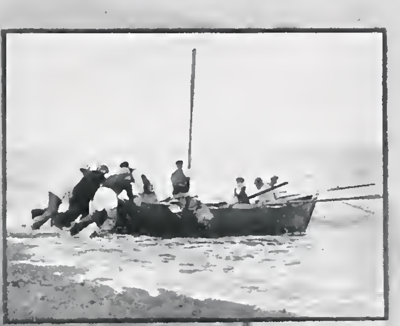
This method of making transparencies is well adapted to ornamental work, such as lamp-shades, or anything which has curved surfaces, upon which it would be impossible to make transparencies by ordinary methods

HAND CAMERA DAYS

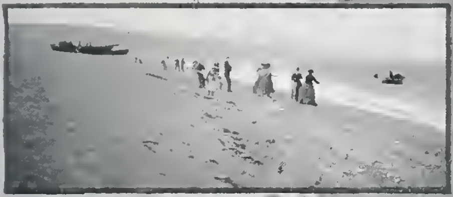
Mackerel Fishing on the Devonshire Coast



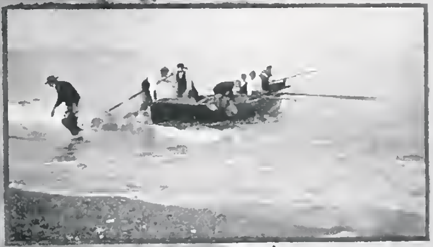
Repairing the Nets



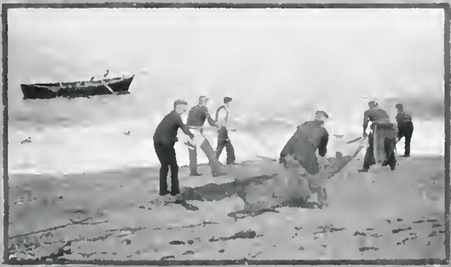
Pushing Off



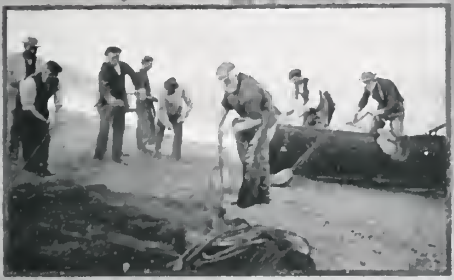
Drawing in the net



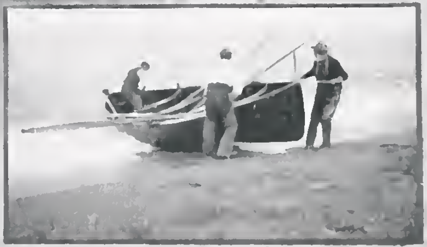
Landing



Hauling



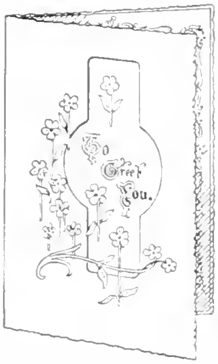
Overhauling



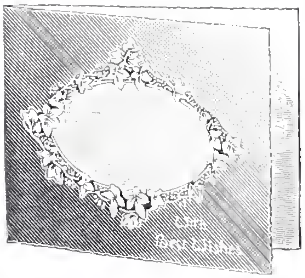
Finished

Houghton's Christmas Card Mounts.

THERE are, we suppose, few of the many thousands of camera workers who do not make a point of sending a batch of prints to their friends at Christmas and the new year with a word or two of greeting. If these are to vie with the dainty non-photographic missives received at the same time they should be tastefully mounted. Amongst the mounts for the approaching season listed by Messrs. G. Houghton and Sons, of 88-89, High Holborn, the difficulty in making a selection lies not in finding pretty designs that will harmonise with the photographs but in making up one's mind to discard others equally attractive.

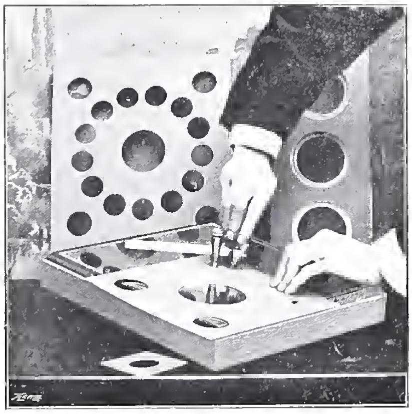


From the plain gold bevelled-edge mounts in assorted tints with mottoes stamped in gold, to the embossed folding slip mounts, there is a wide variety to choose from, while a number of them may be printed with name and address as private greeting cards. The number of designs minutely described in the twenty-two page price list cannot be referred in detail here. Those who are unable to inspect the stock at the counter will be enabled to make a selection by ordering one of the assorted boxes set forth on the last page of the list. The No. 4 for quarter-plate photographs, a sample of which lies before us, contains fifteen mounts, including all styles, and is sold at 2s. 6d. There are ten different sizes, ranging from Victoria midgets to half-plate size.



The Pullman Circular Mount Cutter.

THERE is, we presume, a demand for circular cut out mounts, and one of the neatest and most easily operated that we have seen is that devised and patented by Mr. F. F. Pullman, of 3, Diamond Road, Watford. A general idea of the apparatus and of the work done by it may be gained from the accompanying illustration. Substantially, it is a thick sheet of plate glass fitted in a frame, with a hole drilled in its centre. Beneath this hole and let into the wooden base is a brass plate, also with a hole in it. One leg of a trammel compass revolves freely in this hole and carries an adjustable steel beam with a knife at one end. A punch is also supplied.



To use the apparatus, a hole is pierced in the cardboard with the punch, and the bar bearing the knife is set to the radius of the circle required. The cardboard is laid on the glass table and the leg of the trammel is thrust through the hole; a little pressure is applied to the knife which is then revolved, and the disc is cut out. As the knife is set at an angle, the cardboard is cut to a neat bevel. Practically no skill is required in the work, the only thing to be borne in mind is to keep the cardboard quite steady as the cut is completed. If this is attended to the junction of the two ends of the cut will not be marked. The apparatus will be found useful, both by those who are constantly engaged in cutting mounts and by those who only require to use it occasionally. With a little ingenuity, ellipses, domes, and other fancy shapes may be cut with it.

Mallandain's V.B. Postcards.

V.B. as a contraction for Vandyke brown, the name of the paper issued by Mr. A. E. Mallandain, of 51, Cheapside, has become a household word. It is now applied to postcards coated in a similar manner, upon which mottoes and greetings are printed for use at Christmas and the new year time.

The treatment required is of the very simplest nature; printing should not be carried anything like so far as for P.O. papers, as the image gathers in strength during the finishing operations. The prints having been made, should be finished as soon afterwards as possible, as printing once commenced has a continuing action.

Development is effected by immersion in cold water, and the prints should be kept in constant motion and two or three changes of water given. The prints are then fixed in a solution of half an ounce of hypo in a pint of water, and are afterwards to be washed for two hours. The colour is a hot sepia, which becomes colder with prolonged fixing.

Very fine purple brown tones are obtained by immersing the prints (after they have been taken from the first washing water) in a toning bath containing five grains of ammonium sulphocyanide and one grain of gold chloride in four ounces of water, after which they are fixed in hypo as before. A packet of ten cards sells for sixpence, and each card has a different motto.

ANNUAL GENERAL MEETINGS.

THE ANNUAL MEETING of the Dundee and East of Scotland Photographic Society was held on the 8th inst. Officers were elected and a demonstration on the development of platinotype paper was given.

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THE ANNUAL MEETING of the Great Yarmouth and District Camera Club was held on the 6th inst., and the following officers elected: President, Mr. Bruce Leach; vice-presidents, Messrs. Bowhill, Haysman, Meadows, Shearman, Simpson, and Taylor; honorary secretary, Mr. T. J. Wigg.

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THE ANNUAL MEETING of the Reading and District Photographic Society was held on the 2nd inst., when the president, Mr. A. Palmer, and vice-presidents, Messrs. C. E. Keyser, G. Gilligan, and M. H. F. Sutton, were re-elected; as was the honorary secretary, Mr. D. A. Burton, of Broadlands, Caversham, Reading.

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AT THE ANNUAL MEETING of the Rotherham Photographic Society, the following officers were elected: President, E. Isle Hubbard; vice-presidents, J. Leadbeater, W. Firth, and J. W. Stamp; treasurer, F. Oldham; delegates to the R.P.S. affiliation, the president and the honorary secretary, E. E. Davis. The lecture by Messrs. Taylor, Taylor, and Hobson on "Lens Manufacture" was then read.

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THE ANNUAL GENERAL MEETING of the Luton Camera Club was held on the 7th inst., and the following officers were elected: President, Colonel Carruthers; vice-presidents, Messrs. C. P. Warren and J. R. Marsh; treasurer, Mr. Cocker; honorary lecturer, Mr. Walker; lanternist, Mr. Bradley; committee, Messrs. Bailey, Fullerton, Myers, Percival, Rayner, Staddon, Strange, and Webdale; honorary secretary, Mr. M. Barford, 37, Cardiff Road, Luton; and assistant secretary, Mr. E. P. Chandler.

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THE ANNUAL MEETING of the Pudsey and District Photographic Society was held on the 1st inst., when the following officers were elected: President, Mr. J. W. Golightly; vice-president, Mr. J. R. Coulson; treasurer, Mr. J. Cheney; committee, Messrs. C. B. Collins, W. S. Crowther, W. Green, J. Huggins, W. Muff, J. W. Rawling, J. Way, C. E. Whittam, H. Walker, and Dr. Hurter; honorary secretary, Mr. F. C. Whittam, School House, Pudsey.

PHOTOGRAPHY, No. 780, Vol. XVI.

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LEADER

The Mercury Lamp.

In our issue for January 24th this year, page 84, we gave an account of the Cooper Hewitt mercury vapour lamp, together with examples of work done by it. The lamp, so far as we are aware, however, has not yet come into actual commercial use in this country for portraiture purposes, but our latest advices from the United States are that Mr. Pirie Macdonald has installed a frame of three of the tubes or lamps, and says that, although he has only had it in use a few weeks, he would not now be without it.

Unlike most photographers, Mr. MacDonald has no "top light" in his studio, using instead two large windows side by side, the new light occupying a jamb between the windows. The three tubes cost about £60, and to run them requires 2.8 ampères at 114 volts.

Mr. MacDonald says that the best light in his studio is at about 11 a.m.; then the city smoke arises. His business being with men only, 4 p.m. is the time when he would like to be busiest, but daylight then is poor. With the Cooper Hewitt light at about 2 p.m., he turns on one tube and brings the illumination up to what it was at 11. At 4 he turns on another, and at 6 p.m. and onwards all night, by using the three he has light equal to daylight at his command.

To give his own words, he said recently that the lamp—

". . . for artistic portrait work is all that I can desire; it is ideal. It is so soft that it does not affect the expression of the face, and yet so powerful actually that it is equal to daylight. The field of this new light is broad. It can be used to illuminate

theatres, because the tubes can be protected for transportation by being placed in boxes, and all you have to do is to attach the electric wires to have your lamps working. We have sufficient light in the flash-lamp for all practical purposes in theatrical work, but heretofore we have not had a single light which would aid the artistic photographer.

"No one," he continued, "knows definitely what the exact property of the light is. I know that it has no red rays in it, and that it reduces the image on the ground-glass to a black and white, so that I can form beforehand an accurate judgment of the resultant monochrome. As the light is constant in quality and quantity, it is a simple matter to standardise the exposure and to control that most difficult thing called 'texture.' In portraiture, texture is as individual as form, and until now the most expert photographers have been able only to suggest variety in complexional texture, because of the changing light."

It would be interesting to know how soon we may expect to have the lamp in professional use in this country.

Spirit of the Times

TO LANTERN SLIDE WORKERS. May we remind those of our readers who are slide makers of the closing date of the annual slide competition, particulars of which we publish amongst the advertisements this week for the last time. On and after Saturday, October 24th, no more entries can be received. The photographic competitor, as a rule, is not one who takes time by the forelock. We have had a pretty extended experience of exhibitions and competitions, and have learnt one thing at least from it, and that is that the very last available moments, as a rule, see the arrival of the greatest part of the entries. In spite of this strongly marked proclivity of the photographic competitor, we may say that we have already received a large number of slides, and everything points to the fact that, in numbers at least, the competition will be up to the level of its predecessors. Whether the quality of the work is higher than before remains to be seen when the packets are opened. We hope it will be so, and we ourselves will be much surprised if this is not the case.

* * *

LAPSED PATENTS. Our contemporary *Patents* points out a curious omission in the law on its topic, which may be said to be one of the very few cases in which the Patent Office has not clearly got the upper hand of the patentee. It is illegal to describe an article as "patent" which has not been patented. Moreover, the patentee must fully describe the nature of his invention so that, on the expiration of his patent, his discovery may be fully at the disposal of the public. But, says our contemporary, while the law inflicts a penalty for selling as "patented" an article for which letters patent have not been granted, it does not provide against selling as "patented" articles upon which the monopoly rights have lapsed for months, or even years. "Two things only can happen to lapsed letters patent. Either they must be renewed, or the article must be freed from monopoly and thrown open to the wide world for competitive manufacturing." If our contemporary's view is a correct one, the Patent Office must be losing a good deal in the way of renewal fees, and the public must be injured by being warned off the manufacture of many articles which are really, as far as legal hindrances go, quite free and unrestrained.

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GRAINLESS NEGATIVE PAPER.

Of the many substitutes for glass which have been devised from time to time, celluloid may be said to be the only one which has acquired an appreciable commercial application. Casein, which a year ago seemed likely to become of some use, is now suggested for street paving instead. The story runs that a certain chemist, having made solid milk blocks, and found them unsaleable as food to an ever-incredulous public, thought that the best way to use up his despised patent food was for paving purposes. Hence the "sensational" newspaper leader: "The streets of Paris to be paved with milk!" The support for the gelatine film, which is simplest, cheapest, and most obvious, namely, paper pure and simple, has received so little attention that the sale of negative paper is comparatively limited. It is possible to prepare an almost grainless raw paper, and when varnish has been applied to this, no grain need be apparent on the print if a well-diffused light be employed for printing. Writing in *Ombres et Lumière*, M. Hachel states that he has used negative paper for years, and has always found it answer, and that at the end of a long period of photographing one has, instead of piles of glass plates, merely a "book" or two containing perhaps a thousand each of paper negatives. When "on tour" the bulk as well as weight must obviously be very much reduced, and were negative paper to become more generally used, its price would necessarily decrease in no small degree. One drawback to the use of the paper which might not be readily apparent is that one can hardly use a hydroquinone developer containing caustic soda with it, owing to the destructive action of the latter; but against each drawback we can of course place an advantage—that of the ease of retouching on *both* sides of the negative not being the least.

* * *

COMPOSITE PORTRAITS OF SHAKESPEARE.

The current issue of *The Critic* has an illustrated article by Mr. W. R. Furness, in which he describes his attempts to apply the principles of composite photography to the existing and well authenticated portraits of Shakespeare. The difficulties in the way of success in such endeavours are manifest. It is an essential in composite photography that all the component faces shall be in the same position, and this, of course, in the case in question could only arise by a happy accident. As a matter of fact, we are told that of the nine best portraits six are turned in one direction and three in the other, coinciding sufficiently to make the attempt worth making. The first step, we are told, was to reduce all the portraits to the same size, determined by the distance, in exactest measurement, between the eyes and the mouth. The photographs thus obtained were attached to a board by four pins, with the eyes and mouths superposed as accurately as possible by adjustment in a frame across which were stretched two intersecting fine silk threads, one passing horizontally through the line of the eyes, the other vertically through the centre of the forehead and the middle of the upper lip. After difficulties due to the assertiveness of the photograph of the Stratford bust over the dark and dim Chandos portrait, which were overcome by modifications in the relative exposures, Mr. Furness obtained results the reproductions of which bear out his claim that they reveal a similarity of likeness running through portraits which at first sight present a quite dissimilar character.

* * *

TONED LANTERN SLIDES.

Some interesting specimens of toned lantern slides were shown at a recent meeting of the Société Française de Photographie by M. Molteni, most of the colour effects being obtained by a primary bleaching of the images in some bath, and subsequent exposure to sunlight. The practical utility of the various methods given by him is not perhaps so great as the scientific interest attached to them. The first process is a modification of one already practised. The plate was bleached in an acid mercuric chloride solution, washed, and dried, and then exposed for about an hour to sunlight and placed in the hypo bath, when a peculiar yellowish-brown tone resulted. By treating the bleached and exposed plate with a combined toning and fixing bath, a different result was obtained. The most striking results, however, were produced by the conversion of the silver image into one of silver chloride, and exposing it then to sunlight. We mentioned this method some months back, when it first attracted attention, but we note that in the meantime it has not arrived at any great amount of popularity. A good formula, suggested by M. Molteni, is water four ounces, salt forty-five grains, and copper chloride fifteen grains. This bath will be found to bleach the black image, which must then be washed, and when dry it can be printed out to a reddish colour in daylight. The printing takes several hours, as a rule, but may, if desired, be prolonged to as much as three days, when a violet colour will be imparted to the slide. After a short exposure to daylight, it is possible to develop the faint image with a very weak solution, and in this way a large variety of colours can be obtained. The examples exhibited clearly indicated to what extent these methods can be practised, and they seem worthy of some attention from lantern slide makers.

"THE LANTERNIST'S POCKET BOOK" for 1903-4, which is published by Messrs. W. Butcher and Sons, of Camera House, Farringdon Avenue, E.C., is supplied free of charge to all who apply for it on receipt of two stamps to cover the postage. A section on the use of the electric light should prove useful now that the current is laid on in so many public halls. There are also a number of tables, and a directory of dealers throughout the country that will be of the greatest value to lanternists operating away from home.

PICTURES FROM THE TWO EXHIBITIONS

THE ROYAL PHOTOGRAPHIC SOCIETY & THE SALON

The pictures which, by the courtesy of the exhibitors, we reproduce this week are:

21.—The White Cat. By Douglas English. (No. 3 R.P.S., Invitation Section.)

22.—Getting Dinner Ready. By E. W. Burch. (No. 199 R.P.S., 12in. x 8½in., 10s. 6d.)

23.—A Snowstorm on Dartmoor. By W. Rawlings (No. 315 R.P.S., 14in. x 10½in., £1 1s.)

24.—The Quay. By T. F. Brogden. (No. 236 R.P.S., 9¼in. x 6½in., 35s.)

25.—Night's Prelude. By G. J. T. Walford (No. 142 R.P.S., 10½in. x 3½in., £1 1s.)

26.—A Wind Sea. By F. J. Mortimer. (No. 107 R.P.S., 14in. x 11in., 31s. 6d.)

When a price is given it is for the framed picture, the sizes being the dimensions of the print, excluding frame and mount. Intending purchasers should communicate with the Secretary of the R.P.S., New Gallery, Regent Street, London, W.; or with the Secretary of the Photographic Salon, Dudley Gallery, Piccadilly, London, W., as the case may be.

THE WEEK'S MEETINGS.

THURSDAY, OCTOBER 22ND.

East Liverpool. What can be done with a Hand Camera.
Glasgow Eastern. Pictorial Postcards. J. Peat Miller.
N.W. London. Lantern Slide Competition.
Chester. Conversazione. Exhibition of Prints.
Handsworth. Printing on Bromide Paper E.G. Collins.
L. & P. Microcinematography. — Barker.
Hull. Members' Folio, Y.P U. Prints.
Bristol. Gaslight Printing Papers and their Manipulation T. J. Crofts.
Darwen. Trade Demonstration. W. F. Slater.
Tynemouth. Along the Roman Wall with a Camera. G. Hurrell.
Richmond. Majorca. G. E. Thompson.

FRIDAY, OCTOBER 23RD.

Croydon Nat. How to back Plates.
Watford P U. Time Development *versus* Rule of Thumb. J. Sterry.
Boro' Poly. Bromide Printing. A. M. Usher.
Chiswick. Exposure and Development. E. R. H. Wingfield.
West London Ordinary Meeting.
Simpson Memorial Schools. Home Portraiture. W. H. Syas.

SATURDAY, OCTOBER 24TH.

South London. St. Paul's Cray Common.
Brentford. Visit to Salon and R.P.S.

MONDAY, OCTOBER 26TH.

South London. Exposure and Development. H. S. Beckett.
Oxford. Rotograph and Rotox Printing Papers. — Sims.
Ilford. Our Outings. W. Beal.
Halifax. Majorca, by permission of Messrs. Elliott & Sons, Limited.
Bradford. Open.
Southampton. Architectural Photography. H. W. Bennett.
Kingston-on-Thames. Exhibition of Prints.

TUESDAY, OCTOBER 27TH.

Goldsmiths' Institute. Open Night
Thornton Heath. Lantern Night.
Hackney. Majorca. G. E. Thompson.
Birmingham. Bromide Enlarging. J H. Gear
Chiswick. Tower of London. A Bedding.
Manchester. Lantern Slide Testing Night.
Blackburn. Members' Enlarging Night.

TUESDAY, OCTOBER 27TH *(continued)*.

Glasgow Southern. Hat Night.
Monklands. Lantern Night.
Leeds P.S. The Ruined Abbeys of Yorkshire. Rev. J. Beanland
Bedlington. Papers by Members.
Blaydon. Along the Roman Wall with a Camera. G. Hurrell.
Darlington. Lantern Night
Jarrow. Platinotype E W. Penman.
Yeadon. Portfolio Exhibition.
Nelson. A Chat on Animated Photography. A. Wilkinson.

WEDNESDAY, OCTOBER 28TH.

Croydon. Time *v* Tentative Development. F T. Beeson.
Leeds C.C. Plain *v.* Coloured Slides. W. Bagshaw.
Ealing. Exhibition opens.
Boro' Poly. Majorca. G. E. Thompson.
Cricklewood. Switzerland. J. B. King.
Balham. The Chemistry of Photography. M. Wykeham.
Consett. Subject to be announced.
North Middlesex. Improvements in Sensitising Carbon Tissue. H. W Bennett.

THURSDAY, OCTOBER 29TH

Glasgow Eastern. Carbon Printing. J. Wilton Rix.
N W. London. Westminster Abbey. E. W. H. Piper.
Chester. Holiday Lecturettes. Members.
Handsworth. Snap Shots in Italy. W J. Morgan.
L. & P. Majorca.
Hull. Flashlight. A. Homburg.
Batley. Ruined Abbeys of Yorkshire. Rev. J. Beanland.
Rodley. Lantern Slides. C Grayson.
Ealing. Exhibition closes.
Gateshead. Enlarging. H. Wallis Wardropper.
Longton. Platinotype. Rev. C. F. L Barnwell.
Richmond. Faking. F. P. Cembrano.

FRIDAY, OCTOBER 30TH

Croydon Nat. Lantern Night.
Boro. Poly. Lantern Slide Making by Contact. W. Page.
Whitby. Members' Developing Night. Negatives.

SATURDAY, OCTOBER 31ST.

Great Yarmouth. First Print Competition closes.

Societies will have their meetings announced here if the syllabus is sent to us at the beginning of the Session, or from time to time

NIGHT'S PRELUDE.

BY G. J. T. WALFORD.

A SNOWSTORM ON DARTMOOR.

BY W. RAWLINGS.

GETTING DINNER READY. BY E. W. BURCH.

THE WHITE CAT. BY DOUGLAS ENGLISH.

THE QUAY.

BY T. F. BROGDEN.

A WIND SEA.

BY F. J. MORTIMER.

Carbona and Glycia Postcards.

A PILLAR letter box as brilliant as the real article, though not quite so large, and bearing the inscription, "Griffins' Postcards only may be posted here," is the striking design which Messrs. J. J. Griffin and Sons, Ltd., of 20-26, Sardinia Street, W.C., have selected for the label on their packets of Carbona and Glycia postcards. As Messrs. Griffins' printing-out papers are well known to our readers, it is scarcely necessary to say that the Carbona has a matt and the Glycia a glossy surface. In other respects, the two brands of postcards are very similar in character and in the treatment they require, except that while both tone well with gold, the Carbona is particularly adapted for platinum toning, and gives admirable results with negatives showing strong contrasts.

In printing on either variety for gold toning, the image must be slightly deeper than is required in the finished print. For platinum toning it should be still deeper, and if red crayon tones are required on the Carbona cards, by fixation only, the negative employed should be one showing distinctly more contrast than the ordinary glossy paper will do justice to. The photographer who is unable (either from the nature of the subjects he has to deal with, or from some peculiarity in his methods of working) to produce negatives of a standard strength will find that by employing the two classes of cards and by varying the toning processes he can get excellent results from all.

Each packet contains twelve cards and a negative of floral design on translucent paper together with a mask for one shilling. To those who have used the printing papers bearing the same name it is only necessary to say that the new productions are equally good, while to those to whom the papers are unknown a single trial of the cards will be proof of their admirable qualities.

New Tabloid Preparations.

MESSRS. Burroughs, Wellcome, and Co. have recently made several additions to the long list of photographic chemicals in tabloid form with which photographers generally are familiar. Amongst the older preparations are various developers accompanied by suitable accelerators. To meet the requirements of those who prefer to work with special formulæ differing perhaps but slightly from those embodied in the tabloids, the constituent parts of these developers are now being issued separately, which thus enables the photographer to make up his solutions to any formula.

Of these new tabloids we have received samples of pyro, sodium carbonate, sodium sulphite, potassium bromide, and potassium metabisulphite. As the size of the tabloid varies in proportion to the quantity ordinarily used, and the weight of each is marked upon the wrapper, scales and weights are a superfluity to those who constantly employ them. It is needless to add that the chemicals are in a high degree pure, and may be absolutely relied upon.

"Practical Orthochromatic Photography."

ORTHOCHROMATIC photography is a subject upon which much has been written and the most diverse views expressed. The average reader new to the subject meets with a mass of formulæ from time to time in the pages of his journals for different kinds of colour screens to use with orthochromatic plates, and is not unnaturally bewildered by the conflicting facts and opinions laid down. In some instances the statements are actually opposed to each other and to the facts of the case, in others the supposed inconsistencies are apparent only, and become reconciled when the subject is better understood.

The principles upon which the correction for colour in photography is based are far from being complex, but they must be thoroughly understood before the worker can make or select colour screens with any certainty of success. "Practical Orthochromatic Photography," by Arthur Payne, F.C.S., published by Iliffe and Sons Ltd., at 1s. nett, appeared first in the columns of *Photography*. It has been reprinted with the original line and half-tone blocks, and forms a volume of some hundred and eighty pages. Opened at random the matter will be found interesting, but the plan of the book has been arranged in such orderly sequence that the reader who is addicted to promiscuous prospecting of this kind will quickly refer back and speedily arrive at the first page. It is, in fact, a book not to be glanced at for interesting "bits," but one to be studied carefully.

The reader, however little he may know of the subject, if he sits down quietly with the book, a sheet of paper, and a pencil to make note of the prominent facts, will find himself acquiring an intimate knowledge of the subject with the ability to apply it in the course of his work. The photographer who has already some knowledge of orthochromatics will discover the work to be no less useful. To such an one, Chapter 5, on light, 6, on the illumination of the dark room, and 11, upon dyes, will specially appeal.

"Minute Marvels of Nature."

A NEW book which has just made its appearance under this title is one which we should think will have a decided tendency towards winning recruits to the army of amateur photomicrographers, of which its author is a member. It does not give details of photographic manipulation, but discusses in a bright and chatty way such subjects as "Insect Weapons and Tools," "Pollen or Flower Dust," and "The Beginnings of Plant Life." The author is Mr. J. J. Ward, who is responsible also for the excellent illustrations.

The letterpress is helped out by a profusion of photomicrographs, which possess a merit not always shared by work of a much more pretentious character; they show, and show well, what they are introduced to illustrate. Here are no photomicrographic *tours de force*, the magnifications in no case are excessive, but the lesson which each is intended to convey is put plainly and clearly before the reader.

The book is beautifully printed—some of the half-tone illustrations being particularly fine, and there are getting on for two hundred of them in all—and is published at 7s. 6d. by Messrs. Isbister and Co., of 15 and 16, Tavistock Street, Covent Garden, London, W.C.

"Leto" Gaslight Postcards.

WITH photographic postcards the cry is "still they come," and that in such numbers as speak well for the continued demand for this class of material. As the winter months and long evenings approach the gaslight printing cards are most in request, and Messrs. A. and M. Zimmermann have selected a favourable period for the introduction of their excellent "Leto Gaslight Postcards."

The packet should be opened and the operations conducted by artificial light only, and except during the exposure the cards should be protected from the full strength of the light. Adurol and metol-hydrokinone are recommended as developers, and formulæ are given in each packet. The instructions are to give plenty of exposure, and to develop quickly—from ten to thirty seconds should bring the image up to full strength, and give good blacks and clear whites.

The cards are sold seven in a packet, with two masks, for sixpence, or twelve for tenpence. Large packets of fifty and a gross are sold at a considerable reduction.

THE LARGE DEMAND that has been made for Messrs. Taylor, Taylor, and Hobson's catalogue of lenses has led to a new edition being brought out. The booklet contains the well-known monograph on the principles of a lens action by Mr. W. Taylor, and will be sent post free on application.

THE NEW CATALOGUE of the Goerz-Anschutz folding cameras is illustrated with some striking photographs taken at high speeds. The mechanism and general construction of the camera are explained in a thorough manner, which should be of service to those about to make a selection, and a request addressed to Mr. C. P. Goerz, at 1 to 6, Holborn Circus, London, will bring a copy.

QUESTIONS AND REPLIES

Readers wishing for information upon any specific point in connection with photographic theory or practice are invited to make use of the "query form," which will be found amongst the advertisements. All enquiries must comply with the conditions stated upon the query form; those which do not do so are neither acknowledged nor answered. All enquiries are answered by post. We cannot undertake to make replies in the paper. We print below from time to time a selection from the queries we receive, and our replies.

DETAIL AND DENSITY.

What is it that gives detail and what gives density in a pyro-soda developer. Several photographic manuals state that pyro is a reducer and density giver. In practice I find that if I increase the quantity of pyro the density is decreased, and I obtain a negative full of detail, but extremely thin.

It is a mistake to suppose that one ingredient in a photographic developer gives detail, and that another gives density. Both are the result of light action, and any developer that does not fog the plate will bring out all the density which the light action on the plate is capable of giving, and any developer which does not also have a fixing action will bring out all the detail which the light has imprinted on the film. Pyro is sometimes referred to as a reducer and a density giver, but this is a mistake, as it will not give density without a sufficiency of the alkali, and if present in excess is only wasted. If a developer will not give density with correct exposure, then it is certain that it is either fogging or fixing the plate. Either or both of these effects will prevent good negatives from being obtained. Fogging is due to the developer generally being too strong, or to the presence of too much alkali, or from a bad plate, but this is not common nowadays. The fixing is due to the presence of an excess of bromide (which is not needed in a developer for modern plates) or to the presence of hypo, which is quite out of place. A solution containing thirty grains of sodium sulphite, twenty grains of crystallised sodium carbonate, and three grains of pyro to each ounce of water will give a developer which, so far as we are aware, will give perfect results with any plate for negative work on the market.

TELEPHOTOGRAPHIC LENS.

I have a non-achromatic lens of three and a quarter inches negative focus which I intend to combine with an achromatic lens of four inches positive focus. Will the camera have to be adjusted after focussing, and to what extent? How do I find the extension of camera and the distance between positive and negative lens for a given magnification? At what smallest magnification will the combination cover a half-plate? What magnification could I obtain with a camera extension of twenty-two inches, and how short would the mount have to be?

As one of the lenses is not achromatic, the visual and chemical foci will not absolutely agree. In all probability, however, the negative lens is thin, and the colour correction may not be upset to any extent. It is quite impossible to say to what degree the camera must be adjusted after focussing, as this will alter with the magnification. Want of colour correction is not the only evil that will result from the use of an unsuitable negative lens. The distance from the negative lens to the focussing screen for any given magnification can be found by multiplying the focus of the negative lens by the number of times of magnification less one. When the focussing screen is set at this distance, the separation between the lenses is found by racking the positive lens in or out till the image is sharp. The covering power of the combination depends upon conditions which are not stated in the query. In all probability a half-plate will not be covered with less than an equivalent focus of fifteen inches. To find the equivalent focus, multiply the foci of the two elements together, and divide the result by the sum of the focus of the negative lens and the separation, after having substracted the focus of the positive lens from this sum. For example, let the foci be as stated in the query and the separation be one and three-quarters inches, then

$$\frac{3\frac{1}{4} \times 4}{3\frac{1}{4} + 1\frac{3}{4} - 4} = \frac{13}{1} = 13\text{in.}$$

the equivalent focus of the combination. The less the separation the greater will be the magnification, until a point is reached when the rays become parallel. In other words, the focus of the negative lens added to the separation must exceed the focus of the positive lens, or no image will be formed. Long before this point is reached the extension of the camera will prove insufficient. With twenty-two inches extension (supposing that to be the distance from the back of the negative lens to the focussing screen), the magnification would be seven and ten-thirteenths, or practically an equivalent focus of thirty-one inches. The length and arrangement of the mount connecting the two lenses should be such that the separation may be reduced to three-eighths of an inch, or increased to about two and a quarter inches as may be required.

FOCUSSING WITH SPECTACLE LENSES.

I am using a spectacle lens in place of the ordinary photographic lens, and think I have seen some suggestion as to the use of coloured glasses in focussing, by which racking in the camera afterwards is rendered unnecessary.

If orthochromatic plates are to be used, then focussing through the yellow screen, which is to be used in making the exposure, will ensure the image on the plates being in good focus. If ordinary plates are to be used, then a piece of cobalt blue glass used to focus with and removed before exposure will ensure the same object. In the latter case, some little experience will be necessary to get the best results. Should there be any bright object in the scene it will be observed that it will be surrounded with a coloured halo. When the image has been focussed for the blue violet rays, there will be a red outstanding halo, which is what is required.

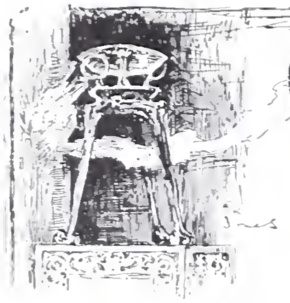
SPOTTING PINHOLES.

What is the best material for spotting pinholes in negatives, and how should it be applied?

A neutral grey water colour, which can be obtained in a collapsible tube, is a good basis. To this a little other water colour may be added to match the tint of the negative if it has been developed with pyro. For negatives developed with the newer developers, no addition will be wanted. A fine sable brush is to be lightly touched with the colour, which must not be diluted too freely with water, and brought to a point. The extreme point of the brush is then lowered in a position vertical to the plane of the plate till it touches the pinhole. If this is small a single touch should obliterate it; if large, minute touches should be laid side by side till it is filled up.

NOTICE TO ENQUIRERS

Answered by post: B. Doyle, A. G. F., R J. Gawnan, H. Hurst, E. A. D., Metol, J. Campbell-Fell, Miss Ella Carter, Constant Reader, Hon. Mrs. Hammersley, J C., T. E. Chipperfield, H. F C., Coxin, S. Chrisman, A. C. Batty, West Hoathly, M. W. B., Vulcanite, L. M. Wilde, Gloucester, A. Allan, F. F. Miller, C Castle-Sloane, R. Y. S., W. J. Drewitt, A. Rice, R. Bingley, Oriental, W. R. K. G., "Monarch," H. A. F W., Sulphur Toning, Bognor, Shareholder, Miss Hendry, F.R.P.S., E. W. Fothergill, C. N. P., J S. Prince, A. J. Thomerson, T. Memesz, G. M. G. Jackson, Subscriber, K. S. V., Hilda, H. F. Cunliffe, A. Seddon, Photo Etcher, C Warne, J. L. C., G. A. G.,



CHEMICAL & PHYSICAL NEWS

A weekly summary of those sciences upon which all photographic processes are based.

Specially compiled for Photography by Prof Fergus J McInnes

"THERMIT."

UNDER this name the Allgemeine Gesellschaft of Essen Ruhr supply, ready mixed, a preparation for the instantaneous production of fused iron for uniting iron rails or joints or repairing broken wheels of machinery. It is a pulverulent metallic compound, an oxide or a sulphide intimately mixed with a metal in powder, which has a greater affinity for oxygen or sulphur than that of the metal already in the composition. A reaction will occur at a certain temperature, and heat will be liberated to such an extent as will serve to melt the metal produced. The process is termed aluminothermy, and the substance consists of metallic oxide and powdered aluminium: and the reaction, in developing a temperature of about 3,000 degrees, liberates the metal from the oxide in a pure state without carbon and without the use of any cumbersome apparatus. The method has numerous applications. Nothing is easier, for instance, than to weld iron to iron, to join two rails, bars, or beams, or plates of the most diverse properties.

ALUMINIUM V. COPPER.

ALUMINIUM lines are now employed for transmission of electrical power upon three of the longest distances in North America. In the longest single line, that from the Electra power house to San Francisco, a distance of 154 miles, aluminium is the only conductor used. The 144 miles of transmission between Colgate and Oakland is carried out with three aluminium and three copper wires. For the third transmission in point of length, that from Shawnington Falls to Montreal, a distance of eighty-five miles, three aluminium conductors are used. From this it will be seen that copper has lost its former place as the only conductor seriously to be considered for transmission circuits. The victory of aluminium has been won in hard competition. The decisive factor has been the cost of a circuit of a given length and resistance. From the standpoint of the sectional area aluminium is inferior to copper as an electrical conductor. Comparing wires of equal sizes and lengths, aluminium has only sixty per cent. the conductivity of copper. This inferiority of aluminium in sectional area is more than compensated for by its superiority in weight. One pound of aluminium drawn into wire of any length will have 3.33 times as much sectional area as one pound of copper in wire of equal length. The weight of copper is 555 lbs. to the cubic foot, whilst that of aluminium is only 167 lbs. From this fact when the price of aluminium is any less than twice the price of copper, the former is the cheaper metal for electrical transmission.

THE ELECTRON THEORY OF CHEMISTRY.

"ENGINEERING" tells us that our chemical friends seem little inclined to abandon without a fight their belief in the immutability of the atom—a creed which has been held by chemists and physicists for nearly a century. Nevertheless, it would seem that the chemist has hitherto utterly failed to make any serious attack upon the electron theory of the atom—a hypothesis which, as was pointed out by Sir Oliver Lodge, involves the consequence that each and every atom is in a process of slow disintegration. Of course, the careful and painstaking work of the great chemists of last century only served to confirm the truth of Dalton's great discoveries, but it has to be remembered that for an equal period chemists had failed to detect in the atmosphere any trace of the new gases of the Argon type, and were indebted to a physicist for the hint which led to their discovery. Chemists claim that the known facts of radio activity are capable of explanation on the line of ordinary chemistry, but when these claims are closely examined it would seem that some of the facts in the absence of others might be thus explained. Quite recently Professor R. Meldola has suggested that radium, as we know it, is an endothermic compound of some unknown element with helium, and is not in itself an element at all. The objections to this hypothesis are several: First, it is difficult to believe that so endothermic a compound as the one proposed could be decomposed without explosion; second, the rate of the radium change seems nearly independent of temperature, which is the case with no other chemical reaction known; and third, the amount of energy liberated is out of all proportion greater than that accompanying any known chemical change.

SUGAR BY ELECTROLYSIS.

FREQUENT mention has been made in these notes of methods of synthetically building up various carbon compounds, such as alcohol and ether, from acetylene. The latest and most surprising result of this character was recently described in the *Chemicker Zeitung* by M. Julius Walther, of St. Petersburg, who has succeeded in producing a whole series of carbon compounds by the electrolysis of water saturated with carbonic acid gas. Such a fact seems to bring us still nearer to the processes of plant life, since the plant to a large extent builds up its body by absorbing CO_2 from the atmosphere. The experiments in question are of especial interest from their great simplicity. The author starts with a solution of carbonic acid in water, made by putting pieces of marble into dilute hydrochloric acid and passing the evolved gas through water in the electrolytic cell. Finding that the current density is of great importance, he applies as anode brushes of platinum wire 0.2 millimeter in diameter, the wire ends all being at equal distances from the cathode. The cathode has a very large surface. A red clay containing some ferrous oxide is further mixed with the oxide Fe_3O_4, or with carbon, or both, and the mass is smeared on iron wire gauze, yielding a cathode of high resistance. A clay pot serves as the diaphragm, and the compartment containing the anode is heated to about five degrees beyond the cathode by means of a small electric lamp inserted in the solution. The electrolysis commenced with a current of two volts. Tension and strength of current were raised by steps by increasing the cathode surface. Oxalic acid first made its appearance, then tartaric acid was formed, and soon citric acid, the latter when the current meters indicated four volts and 2.25 ampères. The current was slowly raised, and then the author noticed the appearance of the carbohydrates at five volts and three ampères, first fruit sugar and finally grape sugar. He goes fully into the chemistry of the process, which, however, would be too long for reproduction in these notes. But the author's line of argument is that the product becomes richer and richer in carbon as the current and potential rise.

POSSIBLE USE FOR RADIUM.

THE possible uses of radium forms the subject of an article which is summarised in the *The Anglo-Indian Review*. In this direction the area where success is practically assured is at present not very large, but in the medical field it is already fairly extensive. In the working of X rays, and in the miraculous results achieved in the treatment of cancer and blindness, we have every hope of great and universally benefiting results. In its industrial applications we are somewhat restricted by the extremely limited supply of radium available, but it is stated that a small fraction of an ounce properly employed would probably produce a good light sufficient for several rooms, one which would not require renewing during the present century. It has been calculated that the energy stored up in one gramme of radium is sufficient to raise 500 tons one mile high. An ounce would therefore suffice to drive a 50 horse-power motor car at the rate of thirty miles an hour round the world.

Correspondence
For the free discussion of all matters of general interest to Photographers

The Editor is not responsible for the opinions of his correspondents.

TONING BROMIDE PRINTS.

Sir,—The following notes upon Mr. Blake Smith's toning process, described in your issue for October 10th this year on page 301, etc., are gathered from my own experience with it. A little more certain method of giving us a range of colour would make it a perfect one, but I offer the author my sincere thanks and congratulations.

The sodium sulphide should be boiled, either out of doors or at the top of the house, as the smell is objectionable, and pervades the house otherwise.

It appears to me to be absolutely necessary that a fresh solution of sodium sulphite should be made for bleaching, as there is no doubt deterioration takes place if the solution is kept. If the bath at the strength advised does not bleach, further sodium sulphite crystals may be added, but they must not be allowed to rest on the prints.

The print must not be left to wash overnight or blisters will be caused.

A very pretty brown is obtained with prints developed by Glycin.

The loss in developed detail caused by this toning method is not great, but should be provided for in development.

Yours, etc.,

A. C. BATTY.

DRY MOUNTING WITH SHELLAC.

Sir,—With reference to the article appearing in your issue of August 15th last, respecting the mounting of prints dry by shellac, I have made up the formula, but substituting methylated spirit for "alcohol," and my experience has been that it acts beautifully and is very clean and simple. But I have found that after a day or two the prints either part from the mounts in the centre or at the edges. The mounts used were cream glossy ones.

I should be glad to know if others have had the same experience, and if it is any fault in working on my part. Perhaps the use of methylated instead of purer alcohol has something to do with it.

Yours, etc.,

ALFD. E. ANDREWS.

QUINOMET.

Sir,—Those who are interested in factorial development may like to know that I have tested this new developer of Messrs. Lumière and find its factor to be about 28, whether used without alkali, with sodium carbonate, or with acetone It will be remembered that it is a compound of quinol and metol, and it is curious to find that it forsakes the character of quinol and is almost identical with metol in its factor and characteristics. The difference is in its being capable of use without alkali, only sulphite being present. In this form I have found it a little slow, and about equal weight of sodium carbonate to the Quinomet is desirable.

Its keeping qualities are neither better nor worse than metol, for when plain solutions of both were made up separately, both oxidised and darkened in a few hours, while both keep well when sodium sulphite is present. The plain solution of Quinomet will develop (not efficiently), but a plain solution of metol has no action.

Yours, etc.,

ALFRED WATKINS.

FLY FISHERS.

Sir,—Some little time ago you suggested in your valuable paper that amateurs should take up entomology as a subject.

No doubt there are hundreds of photographers who are also *fly fishers*. Why should they not have a set of flies from which they could make their own or get copied from their prints in all the varied shades of black, browns, and reds at least, and other colours as they are able? I have, unfortunately, to live in London, and the last two years have been doing all I can to make a full set of the ephemeridæ, tricoptera, perlidæ, sialidæ, and diptera for the Fly Fishers' Club, whence it would have a very beneficial effect upon the fly makers, and so help all. If any of your readers would help me, especially in the duns and spinners, and give a negative to the club, prints of exact tints would soon be made, and thus distributed to the wholesale houses, those who could not make their own flies would be greatly benefited.

Any further particulars I shall be pleased to give to any correspondent.

Yours, etc.,

F. OHLSON.

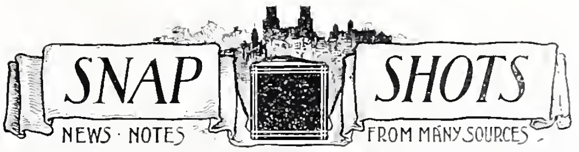
Fly Fishers' Club, 8, Haymarket, W.

DICHROIC FOG: A SIMPLE REMEDY.

Sir,—I used a batch of plates (which were stale, having been overlooked from last year) a few days ago, and recalling Messrs. Lumière's caution, as in *Photography* of the 3rd inst., made up a fresh bath: Hypo, 4 ounces; water, 20 ounces. To my surprise they were bad with dichroic fog, and would not print, so I thought of that formula: Globe polish, 1d. tin, and one tablespoonful of olive oil strained before use. Upon using it I found a slight rub *removed the fog altogether*, and my plates are now all I could wish, thus proving the fog is only on the surface. Thinking this might help some who have plates thus fogged, I lay this cure before you to publish if you think it worth while.

Yours, etc.,

AN AMATEUR.


SNAP SHOTS
NEWS · NOTES FROM MANY SOURCES

Photography Lantern Slide Competition. Entries close this week. Slides not received by the first post on Monday morning will be too late. Full particulars are given amongst the advertisements in this issue.

× × × ×

The international exhibition of photography at Mainz, which took place recently, was very successful, according to *Photographische Kunst*, and at it were represented practically all the well-known firms on the Continent. The list of medals, diplomas, etc., which our contemporary publishes, however, makes it fairly evident that the majority of exhibitors must have been awarded *something*. The Agfa specialities secured one of the gold medals, and Messrs. Hauff took a silver one.

× × × ×

Platinotype was demonstrated by Dr. Barr before the Chorley Photographic Society on the 14th inst.

× × × ×

In the Austin Edwards monthly film negative competition, the prize camera has been awarded to S. L. Fairclough.

× × × ×

The date for the Ensign film competition has been pestponed until May 30th next year, in order to give purchasers of the new Ensign Vidil roll film an opportunity of competing. There are £100 in prizes for this competition, full particulars of which can be obtained from Messrs. George Houghton and Sons, Ltd., of 88-89, High Holborn, London, W.C., and from any dealer.

× × × ×

The seventh annual exhibition of the Croydon Camera Club will be held from the 6th to the 15th of April next year in Price's Gallery, Park Lane, Croydon.

× × × ×

The Wizard's opera glass is the latest novelty brought out by Mr. W. Tylar, of 41, High Street, Aston, Birmingham. It has nothing to do with photography, but is a cardboard box with two prisms in place of lenses. On looking through the toy, objects are distorted in a ridiculous manner. The price is one shilling, or one shilling and twopence post free.

SNAP SHOTS.

A demonstration of trade goods was given by Mr. W. F. Slater before the Photographic Section of the Croydon Scientific Society.

× × × ×

At the Chelsea and District Photographic Society a series of trade demonstrations were given on the 15th inst. by Mr. W. F. Slater.

× × × ×

A demonstration on Rotograph and Rotox printing papers was given by Mr. W. A. Sims at the Whitby Camera Club on the 16th inst.

× × × ×

The Hastings and St. Leonard's Photographic Society has issued to the members a twenty-four page handbook containing the usual information and with a print on Wellington bromide paper as a frontispiece.

× × × ×

Messrs. Fuerst Bros., of 17, Philpot Lane, E.C., send their October price list. It contains particulars of the Axe brand and other goods for which they are agents, and will be sent by them to all dealers making application for it.

× × × ×

The federated societies of Northumberland and Durham have issued a year book at the price of fourpence, containing a syllabus of each society's work, particulars of the exhibitions to be held, articles on various processes by eminent workers, and the usual formulæ and tables.

× × × ×

Celluloid films coated with pigmented gelatine, says *Le Moniteur de la Photographie*, have for some months past been obtainable, and they are when sensitised with bichromate placed celluloid side to the negative and printed and finished in the usual way. Being a transparent picture, no transfer is necessary.

× × × ×

At the annual meeting of the Isle of Thanet Photographic Society, the retiring honorary secretary, Mr. Goldsack, was presented with a pair of silver candlesticks in recognition of his services. Mr. L. G Hodgson and Mr. G. W. Simmers, of 58, Queen Street, Ramsgate, were appointed joint honorary secretaries.

× × × ×

The new edition of Messrs. Ross Ltd.'s general catalogue is now ready as is also the "Photographic Supplement." For those who are only interested in photographic apparatus the latter contains all that will be required, while the former contains a complete list of the firm's telescopes, binocular glass, and other optical goods.

× × × ×

Free films. Messrs. G. Houghton and Sons, Ltd., 88, High Holborn, inform us that although the demand for the Ensign-Vidil films has been beyond all expectations they hope to find, when the applications are all checked, that they will be insufficient to take the whole of the 10,000 free films offered. Any reader who has not yet applied, therefore, should send in without further delay in the event of there being a surplus

× × × ×

The T.E.B. folding mounts for Christmas cards prepared for the approaching season are in eighteen series, differing in size, design, and colouring, but are uniform in their attractive qualities, and should prove a popular line. They are designed to take all sizes of photographs up to cabinets, and in all varieties of shapes. One of the simplest, but not the least effective, is in terra cotta and black Dealers should apply to Messrs. Tyler and England Bros. for samples and prices, and our readers will do well to make a point of seeing them.

× × × ×

At the exhibition of the Rotherham Photographic Society the judges, Messrs. Keen and Scotton, awarded silver medals to Messrs. S. G. Kimber, A. Marshall, John Smith, W. Gooch Hill, W. R. Lathbury, F. Parkinson, W. Firth, A. S. Lyth, H. C. Hemingway, and Jas. Leadbeater. Bronze medals were awarded to Messrs. W. Gooch Hill, F. J. Mortimer, P. W. Crane, R. W. Harvey, J. C. Cox, and J. W. Stamp. Certificates were awarded to Messrs Dan Dunlop, Arthur De Silva, T. E. Cary, J. W. Cox, and J. W. Barnes; and honourable mention to Messrs. Burnie, B. H. Bentley, G. Cleland, and T. G. Hibbert.

A lecture on the marvels of photography was read before the Whitby Camera Club on the 9th inst.

× × × ×

Enlarging by daylight and by artificial light was dealt with by the Rev. C. O. Stewart at the Hull Society on the 15th inst.

× × × ×

The Sunderland Camera Club's winter session opened on the 12th inst. with a demonstration on Rotograph and Rotox papers by Mr. W. A. Sims.

× × × ×

A paper on the manufacture of lenses by Messrs. Taylor, Taylor, and Hobson was read before the photographic section of the Croydon Scientific Society on the 9th inst.

× × × ×

At the Halifax Camera Club on the 10th inst., Mr. J. J. Learoyd opened the winter session with a lecture on Finland and St. Petersburg, being reminiscences of a holiday spent there.

× × × ×

Instruction in photography, both theoretical and practical, is given at the Woolwich Polytechnic, William Street, Woolwich, on Wednesday evenings by Mr. E. Senior, commencing at seven o'clock.

× × × ×

The entry form of the Southsea Society's exhibition has been designed in a very tasteful manner, and a reproduction of the now notorious plaque which set the fashion for that style of award figures on the cover.

× × × ×

A paper on enlarging was read by Mr. Green at the Kingston-on-Thames and District Photographic Society on the 12th inst., and Messrs. Griffin and Sons' enlarging apparatus in various patterns were shown.

× × × ×

Mr. Eduard J. Steichen was married on Saturday, October 3rd, to Miss Clara Smith. We are glad to receive such circumstantial evidence of Mr. Steichen's recovery from the indisposition which we announced two or three weeks ago.

× × × ×

Mr. J. Mottershead, at the Longton and District Photographic Society on the 15th inst., compared the ideal slide of to-day with the comparatively crude best of ten or fifteen years ago, and demonstrated the making of slides in various colours.

× × × ×

That a fixed focus enlarging apparatus could produce good results with a minimum of trouble was demonstrated at the Polytechnic Photographic Society by Mr. A. W. Green, who operated with several of Messrs. Griffin and Son's enlarging cameras.

× × × ×

Mr. W. Tylar, of 41, High Street, Aston, Birmingham, is responsible with "Richard Penlake" for the booklet on "Photographic Dodging," which he publishes at threepence. The dodges are none the less welcome for being old acquaintances, while the quips, cranks, and advertisements are genuine Tylarisms.

× × × ×

Faulty negatives and their treatment was the subject of Mr. Anyon's lecture at the Liverpool Amateur Photographic Association on the 15th inst. He suggested intensification with mercuric iodide, reduction with hypo and potassium ferricyanide, and local reduction by rubbing with leather or a rag moistened in alcohol.

× × × ×

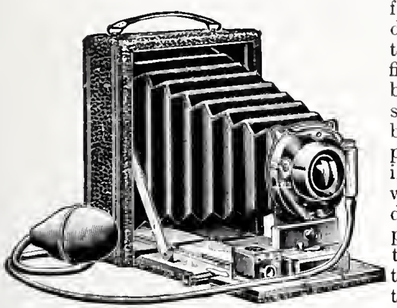
Green tones on bromide paper may be obtained by immersing thoroughly washed bromide prints in the following bath: Water, 8 ounces; ferric oxalate, 3 grains; nitric acid, 1 drachm. When dissolved, add three grains of potassium ferricyanide in a little water. If thirty grains be used instead, the solution will give blue tones.

× × × ×

The Henderson award, as our readers know, is a grant made annually by the London and Provincial Photographic Association, for the best paper read before the Association upon a photo-chemical or kindred subject. At the meeting last week to decide upon its bestowal, it was voted by the Association *nem. con.* to Mr. T. Thorne Baker for his paper upon photography with salts of metals other than those of silver.

The Pocket Premo C. Camera.

SOME time back we called attention to the "Film Pack" method of changing cut films adapted for daylight loading, as introduced by the Rochester Optical and Camera Co., of 112 and 113, Fore Street, E.C. The Pocket Premo C. Camera is the newest of the cameras made to carry either glass plates or the film packs. The camera is of the folding type, fitted with a focussing screen, and the plates are carried in single dark slides. The film pack, as our readers may remember from our previous description, contains twelve cut films in a cardboard case. The seal is to be broken and the pack is then placed in the adapter, which is simply a dark slide of peculiar construction, permitting the paper tabs that are attached to the separate films to protrude at the top. On drawing out and tearing off the first tab a film is ready for exposure, and by drawing out the tabs the whole twelve films may be exposed in rapid succession, and this may be done as quickly as plates are changed in a magazine camera.



In the ordinary course of things the photographer who uses the camera upon a stand will require to make use of the focussing screen between the exposures. This is provided for by replacing the shutter, when the slide may be removed from the camera. The camera differs little in construction from those the company have previously brought out, but is exceedingly compact and well made. The baseboard is jointed with piano hinges, giving great strength where it is required. The lens works at f/8, and gives good definition. A rising lens board, brilliant finder, and level are provided, and the baseboard has a double extension.

When the film pack was first brought out we were able to speak in commendation of it, and our good opinion is strengthened by the tests we have recently made, there being absolutely no hitch in the changing. The price of the camera with film pack adapter in quarter-plate size is £2 14s. 6d. Film packs are now on the market for the 5in. by 4in. size at 3s. 9d., and adapters can be supplied at 6s. 6d.

"Lasso": A Soap for Developer Stains.

WHEN Mark Twain rebuked his young friend Jack for his polyglot letter, in which he told the landlord of the hotel that "Savon was an article de la vie," Jack responded "Go slow, the old man can read the French and average the rest." The photographer who has tried chlorinated lime and other abominations in the hope of getting rid of pyro stains will agree with Jack that a soap that will remove these stains is an article de la vie. "Lasso," a soap placed upon the market by Messrs. E. Cook and Co., of the Soap Works, Bow, is the most efficacious detergent we have used for the purpose, and, unlike many of the mixtures recommended from time to time, it seems to have no injurious effect on the skin. Messrs. Cook and Co. offer to send a box of soaps, including Lasso, to readers of *Photography* on receipt of six penny stamps. The investment will be a good one, and will enable those who, like Mr. Baskett, occasionally raid the pantry to make their peace with the household authorities.

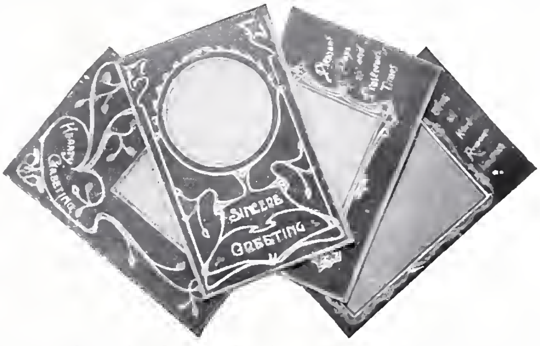
Primus Postcards and Masks.

IT would appear that no efforts are being spared to popularise still further the photographic postcard, the demand for which has already been so great. Messrs. W. Butcher and Sons have placed on the market three varieties of postcards and a number of cut out masks for use with them.

The collodio-chloride cards are in two kinds—glossy or matt—and both the support and the emulsion are of very fine quality. Those who are accustomed to use collodio-chloride paper need make no alteration in their usual methods in working with the postcards. The instructions are to print until the shadows are bronzed, to wash for a quarter of an hour in several changes of water, and to tone in the following bath: Ammonium sulphocyanide, 30 grains; water, 16 ounces; and gold chloride, 2 grains. After a brief wash the toned cards are transferred to a fixing bath of hypo, 3 ounces; water, 20 ounces. After washing the cards may be dried between blotting paper, or by gentle heat. Each packet contains twelve cards and two masks, and sells for ninepence.

The gaslight postcards may also be had either glossy or matt, and the packet should of course only be opened in gaslight or very subdued daylight. The exposure may be from one to three minutes at about six inches from a gas burner, or may be more expeditiously carried out by burning a short length of magnesium ribbon. A well-restrained metol-hydrokinone developer is recommended, the formula being similar to those commonly employed for gaslight papers: metol, 10 grains; hydrokinone, 30 grains; sodium sulphite, 350 grains; sodium carbonate, the same quantity; potassium bromide, 5 grains; and water, 10 ounces. Used as stated the developer gives cold black tones, inclining to bluish black, but by giving slightly longer exposures and diluting the developer engraving black tones may be obtained. The prints, without washing, should be at once transferred to a plain hypo bath, and then washed thoroughly in the usual manner. As the cards are coated with a gelatine emulsion they must not be dried between blotting paper. The price is one shilling per packet of twelve.

A novelty in postcards is the series on grey, brown, and art-green card of a felt-like texture. They bear impressed designs in two shades of colour with suitable mottoes. Rectangular, circular, and other shaped spaces are left for the photographs to be pasted on. The accompanying illustration gives a good idea of the styles. The price is one shilling for twelve assorted cards.



Masks are of course a necessity in printing upon postcards, and to meet the demand Messrs. Butcher and Sons prepare them with a variety of openings suitable for all styles of work. They are issued in two different packets, in the one fifty assorted masks are placed loose in an envelope, and in the other twenty-five are bound up bookform, and are easily detachable by tearing across the perforated line. Both sorts sell at sixpence per packet.

The following specifications of patents relating to photography have been published, and copies may be purchased at an uniform price of 8d., at the Patent Office, Sale Branch, 25, Southampton Buildings, London, W.C. The price of the specifications includes postage to any part of the United Kingdom. The additional postage to foreign countries is usually ½d. per specification. Postage stamps must not be sent on payment of any amount exceeding 11d. In ordering the name of the patentee and both the number and year of the patent must be given.

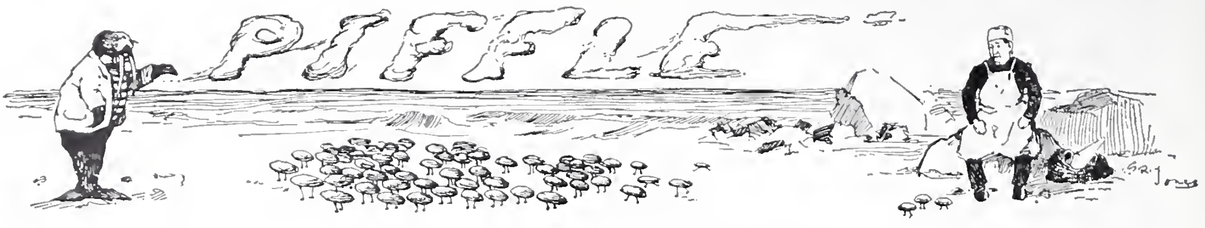
1902.

22,941.—Shaw. Printing apparatus.

1903.

10,963.—Parish. Hand camera

18,721.—Conley. Shutter.



"The time has come, the Walrus said, to talk of many things"

IS Mr. Snowden Ward weary of a peaceful life? He is asking for trouble. He is determined to stir up dissension, and to engender strife. He is going to cry havoc, and let slips the dogs of war. He is, in short, lecturing on "Who discovered photography?"

* * *

I have recently shown that the art was practised by Adam and Eve. I therefore decline to accept the nomination of a discoverer of later date, and if Mr. Snowden Ward indicates a pre-Adamite as the inventor he will indubitably have the whole posse of theological professors "on his collar." Why does he not select some non-contentious subject, such as modifying development, or the authorship of the so-called Shakespearian plays?

* * *

He might then stand some chance of continuing his able editorial work instead of being converted into the occupant of a mausoleum.

* * *

Few people nowadays have the impertinence to form their own opinions on any subject, but take them ready-made from the particular paper they affect. Hence the violent differences of opinion which lead to heated dialogues between the readers of the *Daily Lyre* and the student of the *Slopperton Dustbin.* Having myself perused about half a million varied reports on the exhibition of the R.P.S., it is evident to me that there must be at least half a million conceptions of what that show is like, although I freely grant that each was written by a competent and unprejudiced scribe. Perhaps.

* * *

It seems to me, however, that to obtain a really clear and accurate idea these half million reports want editing. The reliable information and valuable opinions contained in them need collating and presenting in precise and succinct form. Is that possible?

* * *

The answer is, Aye.

* * *

Who will do it?

* * *

Again the answer is, I.

* * *

I will distil into one sweet draught the mingled essences of these multifarious effusions. My account shall be as clear-cut as a cameo, as plain as a pikestaff, as true as steel. I will pluck forth the truth from the seething sea of verbiage as unerringly as the practised savage grabs the choicest morsel from the smoking cauldron of stewed missionary.

* * *

I pray you like my metaphors.

* * *

Now for it. The rooms in which the R.P.S. exhibition is held are probably the most suitable for the purpose in London. Why then is the show not held elsewhere, say, at the Dudley Gallery? It is, in fact, high time that this famous exhibition was discontinued altogether, as it is increasingly popular, and serves several useful ends. There are too many pictures hung, and one heartily wishes that there were more of them. The standard of excellence is uniformly high, showing a distinct falling off from the performances of previous years. There is no justification whatever for showing some of the pictures except that they give universal pleasure and are highly praised by all who see them.

* * *

A mere topographical rendering of a hackneyed subject—"The Mill at Evening," by one Mummery—is a very ordinary piece of work, and undoubtedly one of the finest pictures of the year. It is a grand object-lesson in what to do, and should on no account be imitated.

No hostile criticism of the awards of medals has been heard, except that they have gone to the wrong men for inferior work, and that medals should not be awarded at all. Otherwise the judgment of the judges is heartily endorsed.

* * *

The Loan Collection is a brilliant failure, the Technical Section a miserable success, and the Trade Exhibit so useful and interesting that it should be forthwith abandoned. It is to be hoped that the present show will be absolutely the last, and the predecessor of a long series of similar praiseworthy attempts to lower the standard and vitiate the taste of photographic workers.

* * *

There. I think that makes it all pretty plain. If your conception should still be hazy I would advise you to burn your report in the *Daily Lyre,* go to the show yourself, and use those faculties (if any) with which you may (or may not) be endowed.

* * *

Fearing that my screeds have lately erred on the side of frivolity I proceed to offer some of that serious instruction in photographic matters for which this page has so long been famous, and which forms indeed my only justification for occupying so much valuable space week by week. Perpend.

* * *

To avoid the chagrin and disappointment arising from failure to succeed in photographic competitions. Do not enter them.

To economise plates. Make your exposures without opening the dark slide. Or take several pictures on one plate.

Double-toning of P.O.P. prints may be altogether avoided by the following method. To the ordinary toning bath add two or three sticks of the best cinnamon, five drops of (too) common rain water, and a pennyworth of tin-tacks. Then pour the lot down the sink, and print in platinum or carbon.

Halation may be prevented by refraining from development, as the defect is not apparent in the latent image.

Prints are best trimmed by sending them to a good milliner.

The best books for photographers are Dante's "Inferno," Bradshaw's Railway Guide, Little Henry's Latin Grammar, "Caudle's Curtain Lectures," Marie Corelli's "Mighty Atom," and Smiles's "Self-help." The last is particularly valuable as indicating a method of acquiring apparatus without outlay.

To obtain photographs in unnatural colours. Paint them.

* * *

I am brimful of this sort of knowledge, but for the present I will pause. Otherwise there will be an embarrassment of riches, as they don't say in France.

* * *

I am pleased to ann-*ounce* the publication of a *weight*-y work on "The Coming *Kilogramme,*" by the author of "The Borgia's *scruple,* or the fatal *dram.*" There is, however, not a *grain* of truth in the assertion that the publisher has raised his *scale* of prices to a *pound* a volume. These remarks may be *metre* for a *litre*-ary paper, but the fact does not *minim*-ise their importance.

THE WALRUS.

SUBSCRIPTIONS.

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PHOTOGRAPHY
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Some Notes on Flower Photography. By H. F. Taylor.

With illustrations by the author. Special to "Photography."

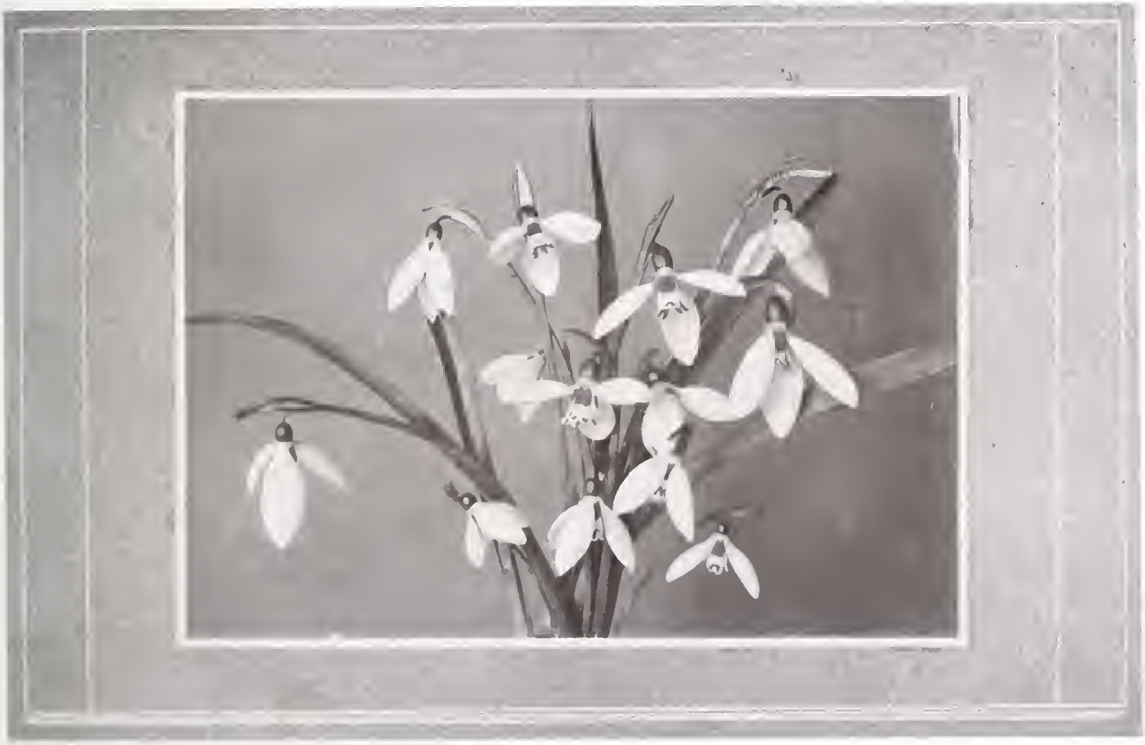
> "Daffodils,
> That come before the swallow dares, and take,
> The winds of March with beauty."
> *Winter's Tale.*

THERE is a very general impression abroad that the photographing of flowers is entirely a matter of isochromatic plates and colour screens of varying tints; but, like many other popular impressions, this is only part of the truth. The fact of the matter is that the chief requirement—the writer speaks from long and chastening experience—is a colossal and absolutely inexhaustible stock of a very homely virtue called patience. It is the custom to speak of the achievements of Job in this direction as representing the sum of human attainments, and we have it on high authority that the patriarch's stock of this commodity was of monumental proportions; but one thing is certain, Job never possessed a camera, nor tried to photograph the flowers of his native land! Had he done so, of course, one does not suggest that he would have been known to posterity as anything less than the embodiment of patient endurance; still, the imagined situation is full of possibilities.

> "Though patience be a tired mare, yet she will plod."
> *King Henry V.*

The need of the excessive amount of an uninteresting virtue is not at first sight apparent. We see a successful picture of flowers, and the arrangement strikes us as being easy and natural, almost haphazard, in fact. "All that is necessary," you say, "is to place a few flowers loosely in a vase, with a few sprays of their own foliage, and the thing is done!"

A greater mistake was never made. The more careless and natural the composition appears, the more trouble and care probably have been lavished upon it. For, observe! not only must the flowers be arranged in a pleasing composition, but it must so be done as to hide as far as possible the fact that they have been arranged at all, and therein lies the task and the need to emulate the patriarch referred to. For here another factor enters into the case. Flowers are, we say, inanimate objects, and, theoretically, of course, should remain wherever and however we place them; but I am firmly convinced, and I know them well, that like a few—a



Snowdrops.

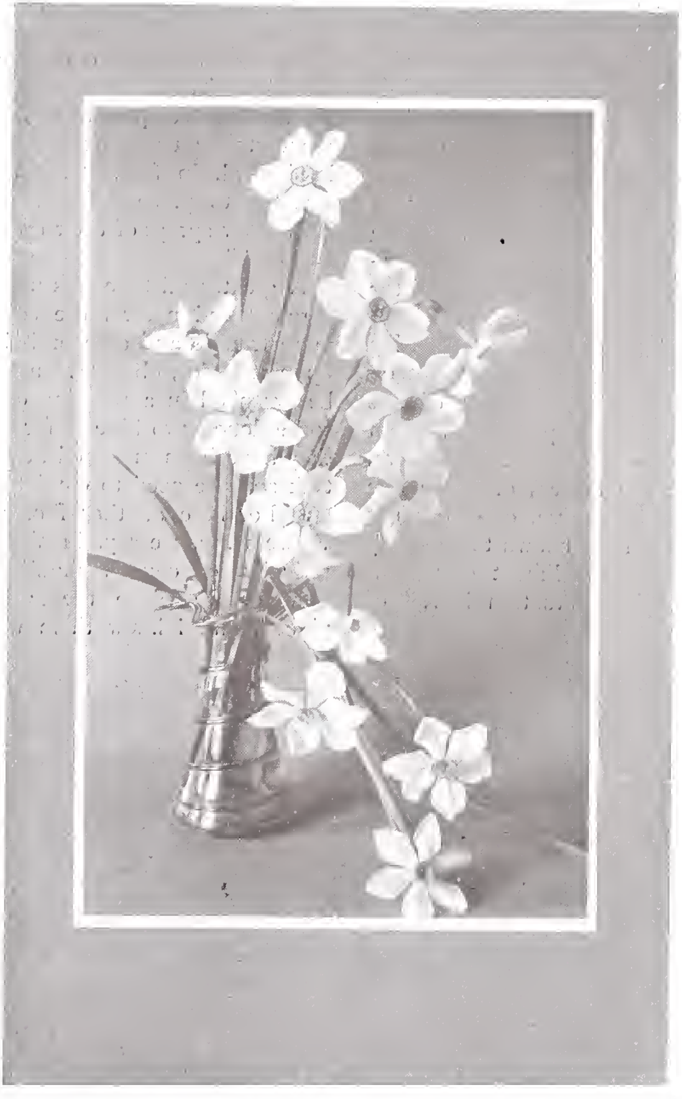
very few—of our popular celebrities, they have an inherent dislike to being photographed, and will avoid it if possible.

This appears to be a fanciful idea! Well, just take a handful of the poet's narcissus and arrange them in a vase for the table. Given a moderate amount of taste—if the photographer is a lady, of course she will have more than that, much more—a pleasing effect will be obtained in a few minutes. Now take a few of those same blossoms and endeavour to arrange them in front of the camera, and, by the way, a totally different arrangement is wanted this time. What is the result?

One after another they will slip round and turn their poet's eyes in any direction but that of the camera, and even after they are satisfactorily arranged, unless some drastic means of keeping them there has been adopted, they will almost imperceptibly veer round with the perversity of a spoilt child.

However, these are difficulties which can be overcome by the exercise of our "homely virtue," and there can be no doubt that the results which may be obtained are well worth all the trouble. There are other considerations, too, which should commend this branch of the art—I make no apology for the use of the word—to every photographic enthusiast.

Few indeed who come under that head can get away into the country as often as they would like in search of Nature's beauty spots, and Mahomet must go to the mountain in this case, it will not come to him. Not infrequently when a trip has been arranged, when the plates are in their slides, and everything is ready, the weather—the uncertain English weather—is wet and disappointing. If the photographer is a landscape worker only, and his stock of patience is strictly normal, he will probably wander aimlessly round muttering maledictions upon that erratic individual who is supposed to control our weather, and who gives us, as the American complained, merely "samples" of weather, and nothing long. If he is so tempted let him take *Punch's* advice, and, Don't. It is exhausting, and besides, it is absolutely ineffective, and so long as he has a handful of daffodils or marguerites he need not look far for a subject.



The first consideration is, of course, to obtain the flowers, and that reminds me that all who would take up this branch of photography with anything like enthusiasm should also be amateur gardeners. They are sister hobbies and are helpful to each other. The garden will supply studies all the year round, and at the same time the finest discipline known for the impatient soul, for in gardening one must learn to wait for results. Dame Nature will not be hurried under any consideration whatsoever. The pleasure of gardening is wonderfully enhanced when, by use of the camera, horticultural successes are placed on record. To possess such a collection of pictures is better than a whole gallery of ancestors, for the photographer has produced his picture, subject and all, from the embryonic state. He can claim no such credit for his ancestors, for they, as Dogberry says of reading and writing, "come by nature."

The flowers that one grows, also, can be had in perfect condition. We can choose them at their best, and use them "with all their dewy freshness thick upon them." Still, if the flowers must be obtained from the florist, choose those that have but just opened their petals, and buy them a day before they are to be photographed. A night in water in a cool room will work wonders in restoring their freshness.

The vases which best lend themselves to our purpose, whether they are to be included in the picture or not, are fairly tall ones of the tube-shaped pattern, and should be of a size to hold tightly the stems of the flowers. This helps greatly in the process of arrangement, and brings the natural perversity of the blooms more under control. Needless to say, the vase should have no elaborate design upon it; indeed, both vase and background are better quite plain.

Colour corrected plates are of course a *sine quâ non*, and the speed should be slow for the best rendering of the tones, but too much must not be expected even from orthochromatic plates. It is not reasonable, for example, to expect a successful negative of a spray of carnations which includes a pure white bloom at the same time and one of a deep scarlet colour. It may not be impossible, but it is very difficult. It is better both technically and pictorially to keep to one variety, and as far as possible to one colour, or to shades of one colour for a given study. With regard to colour screens, the writer finds that a yellow screen of medium tint answers almost all purposes, and will necessitate the exposures being multiplied by three.

Here, then, is a field of work which is limitless, and is ever at hand.

> "The daughters of the year,
> One after one through that still garden pass,
> Each garlanded with her peculiar flower."

When the narcissus and daffodil are over they and their fellows of the spring only pass to make room for other beauties scattered broadcast with no beggarly hand. May and June bring their tribute of iris, lilies, and apple blossoms, and the latter month is laden with the scent of roses. Then onwards, Nature almost bewilders us with the profusion of her offerings, but amidst all the stately blossoms of the garden, do not forget the meadows and hedges with their meadowsweet, oxeye daisies, and dog roses, for the wild flowers of England are the loveliest of them all.

Marguerites.

Another illustration to this article, by Mr. Taylor, is given on page 366.

FORTHCOMING EXHIBITIONS

SOCIETY	OPENS.	ENTRIES CLOSE.	SECRETARY.
Plymouth Industrial	November 4	October 24	Chas. A. Rowe, 2, Walnut Villas, Cockington, Torquay.
Frome M.I.	November 5	October 24	Bernard J. Mitchell, 3, Willow Vale, Frome, Somerset.
Edinburgh Industrial	November 5	October 17	A T. Huchinson, 7, North St. Andrew Street, Edinburgh.
Hackney P.S.	November 11	October 26	Walter Selfe, 70, Paragon Road, Hackney, N.E.
Braintree and B.C.C.	—	October 30	W. P. Dreaper, Coggeshall Road, Braintree.
Friary Bazaar	—	October 31	H. Sharp, 105, Muster's Road, West Bridgford, Nottingham.
Sheffield P.S	November 17	November 3	J. W Charlesworth, 1, Joshua Road, Sheffield.
Bishop Auckland P.S.	November 17	November 8	John Welsh, Salisbury Place, Bishop Auckland.
Sunderland P.A.	November 18	November 2	W. E. Kieffer, 1, Stirling Street, Sunderland.
Southsea P.S.	November 18	—	F. J. Mortimer, Pembroke Road, Portsmouth.
Tunstall	November 18	November 7	C. J. Eardsley, High Street, Tunstall, Staffs.
Edinburgh P.S.	November 21	November 7	J. S. McCulloch, W.S., 3a, North David Street, Edinburgh.
Berne International	November 25	—	Prof. Deichselt, 19, Bühlstrasse, Berne.
Glasgow E.A.P.S.	November 28	November 23	A Walker, 80, Garthland Drive, Dennistoun, Glasgow.
Hove P.S.	December 2	November 23	A. R. Sargeant, 55, The Drive, Hove.
Dalziel Bazaar	December 10	November 28	James Dunlop, Myrtle Bank, Motherwell, N.B.
Southampton P.S.	December 11	December 2	S. G. Kimber, Oakdene, Highfields, Southampton.
Chicago S A P.	December 29	December 15	Society of Amateur Photographers, The Art Institute, Chicago.
Liverpool A.P.S. Slide Competition	—	January 30	E. Sinnett, Percy Buildings, Eberle Street, Liverpool.
North West London P.S.	February 11	January 28	J. S. Fairfoull, 13, Addison Road, Walthamstow.
Cripplegate P.S.	February 29	—	G H. Depledge, 17, Hazeldene Road, Goodmayes, Chadwell, Essex
South London P.S.	March 5	February 20	W. C. Marshall, 41, Glendon Road, Lee, S.E.
Brechin P.A.	March 5	February 13	J. Kirk, 1, Infirmary Street, Brechin.
Nottingham C.C	March 9	—	Arthur Black, 9, Bowers Avenue, Nottingham.
Brentford P S.	March 15	March 3	F. H. Read, Clifden Road, Brentford.
Croydon C.C.	April 6		H. M. Bennett, Alipore, Duppas Hill, Croydon.

Brush Intensification and Reduction. By F. M. Steadman.

Reduction.

A SMALL quantity of potassium ferricyanide is powdered in a mortar, and is then kept in a dry state in a bottle or small, round, wooden box, the lid of which may be used for measuring with the eye the small quantity that is to be mixed from time to time for doing the work. To use it, about as much as can be picked up on the half-inch of an ordinary knife blade, or about the volume of a pea, is poured into the lid, and this is tipped sideways, and its bulk noticed, so that the same amount can be judged afterwards, by the eye alone. This is emptied into a graduated measure, and water added to make two drams.

For local reduction an ordinary quill brush, about three-quarters of an inch long is used. About six brushfuls of water are transferred to a little vessel, and to this is added one brushful of the strong solution. This is for reducing small parts that are too thick in the negative, such as white flowers on hats, white ties, wedding gloves, opaque reflection spots, etc. Weaker solution is used to reduce larger areas as white drapery, parts of the background, the lower parts of half or three-quarter figures, to make the appearance of shading off below (this, however, should have been done in the lighting, and not left for the reducer). Certain parts of landscape negatives also, such as skies, and thick parts of negatives too strongly developed in cases where the subject was too harsh, may be treated with it.

The negative should have been made with a developer which does not stain the film, and fixed in a freshly mixed bath of hypo. As many photographers use a large hypo bath renewed from time to time as needed, a plate to be reduced may be laid for a moment after fixing in a small dish containing an ounce of hypo dissolved in four ounces of water. The plate is lifted from this bath, and then to reduce a small part with the strong solution the excess of hypo solution is wiped off from the part to be reduced. A brushful of the strong solution is taken, and half its contents are pressed out of the brush against the side of the graduated measure. These two precautions are taken so that the solution will not "run" when the brush is applied to the small part to be reduced.

It is desirable that the negative should be held horizontal during all these operations, and in order to do this the light must come from below. Fine work can never be done by looking through a negative directly against a flame. If films are used they should be put on a clean glass, emulsion side uppermost.

The brush is now applied carefully to the part to be reduced until it is brought down to the desired opacity, taking great care to get the edges well reduced with the centre. Practice should be made on worthless negatives until confidence and skill are obtained.

To reduce larger portions the negatives should be lifted from the hypo, but only slightly drained, and a brushful of weaker solution applied swiftly over the part to be reduced. By practice each worker will develop a characteristic method of handling the brush and mixing the solutions to secure his results. It should be borne in mind that the greater the power in any method the more care is necessary in using it, and the greater the danger of spoiling results by carelessness.

For general reduction I take a crystal of potassium ferricyanide the size of a pea, hypo five or ten times as much, and dissolve them in two to four ounces of water. The plate is lifted from the hypo bath, dipped in water, placed in a dish, and the solution poured over it until it reaches the proper density. A string or thread laid across the dish before placing the plate in it will serve to lift it up, so that the fingers may be kept out of the reducing solution. After reduction is finished, whether local or general, the plate or any particular part of it may be intensified after it has been rinsed in three or four changes of water or held under the tap for a minute.

Intensification.

One dram of mercury bichloride and half an ounce of water should be placed in a mortar, ground up, and then poured into a pint bottle. This operation should be repeated until all the mercury has been carried into the bottle by the water. The mortar is then rinsed out, and in it seventy-five grains of potassium iodide is placed, a little water is poured over it, the salt crushed and dissolved, and then added to the mercury solution in the bottle. The mortar is again rinsed, and two drams of hypo placed in it similarly crushed, dissolved in a little water, and poured into the bottle. On the addition of the hypo the solution will become clear and is ready for use. Separate brushes for reducing and intensifying must be used.

To intensify such parts as have remained too thin, such as heads in groups, or any other small parts which it may be desired to build up, full strength solution should be used. With a little care even the hair or the hand coming against the white drapery may be intensified. A negative with much white drapery may sometimes be made very satisfactory, if it is first developed correctly for the drapery, and then intensified with the brush, locally, on the hands, face, and the background.

Should the whole of the negative require intensification the solution should be diluted until it works at the speed which the user prefers. At the same time, nothing can possibly be gained by waiting five or ten minutes for the intensification on a negative when this can be done just as well in a minute. A fresh solution will be found to act in a very few seconds when used at its full strength.

Great care should be exercised in mixing, storing, and handling these solutions, as they are extremely poisonous. By suggesting the use of such strong solutions I do not wish it understood that one may be careless in lighting and developing, trusting to this method for the correction of the errors, but rather that they should be used to improve still further the quality of the results after all that is possible has been done before.

An intensified negative is practically permanent, if the following points be observed: A fresh hypo bath each time, thorough fixing (at least twice as long as is required to take away the white colour from the back of the plate or film), and thorough final washing.

In handling films it is essential that they be kept moving in all the baths to ensure even action. The films should always be placed in the baths, with the emulsion side downwards, and they should be kept moving by pulling out the bottom one, putting it on the top, and pushing it down, so that the solution runs over it. When allowed to lie still in any bath, they cling to each other in some spots more than in others, the liquid is forced away from these spots, and they do not become fully acted upon.

This lying still in the developer forms spots of greater transparency than the parts around them. In the hypo these spots, although they may finally be fixed out to the satisfaction of the eye, are still always less fixed than the parts around them, and when such negatives are intensified in a year or less they begin to turn yellow, and always in spots exactly in correspondence as regards general character and size with the spots which fixed last in the hypo bath, by reason of the adhesion of the films to each other in that bath. This proves the necessity of thorough fixing and washing.

If films are left quietly in the last or glycerine bath, the same thing occurs, but in this case the result is that the films will cockle in the printing frame. This is easily explained by wetting a stiff piece of writing paper all round the edges, leaving only a dry spot about the size of a crown in the middle, and then trying to press it down evenly between two pieces of glass. The same trouble will be encountered, and for the same reason. (Abstract of a communication made to *Wilson's Photographic Magazine*.)

PHOTOGRAPHY, No. 781, Vol. XVI.

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NOTICE TO CORRESPONDENTS

All letters, advertisements, etc., must reach the office on Friday morning to ensure being dealt with in the issue for the next week. In cases of great urgency, letters delivered up to the first post on Tuesday morning may be in time to receive attention, but this cannot be guaranteed.

Communications for the Editor should be addressed, The Editor of *Photography*, 3, St. Bride Street, London, E.C.

Advertisement copy and orders, and these only, should be sent to the printing works. They should be addressed ILIFFE & SON LIMITED, Coventry.

In all publishing matters, letters, orders, etc., should be addressed, ILIFFE & SONS LIMITED, 3, St. Bride Street, London, E.C.

LEADER

Direct Sulphur Toning of Bromides.

From the correspondence which we print elsewhere, from the many enquiries we are receiving upon the subject, and from the reports to hand from the most active of the societies, there is no doubt that the direct process of sulphur toning which the photographic world owes to Mr. Blake Smith is attracting the attention so simple and reliable a method deserves. In view of the fact that this method was first described in the columns of *Photography*, and that the subsequent communications from its author have been similarly made public, we may be excused for taking an especial interest in the process.

It has suffered, as most new processes do suffer, from the individual who may be termed the "formula garbler." No sooner is an advance in manipulation described, or a novel combination of substances put forth, than other accounts from other hands make their appearance masquerading as original, and containing some slight, but often noxious, modification of the original formula, devised transparently for no other reason than to conceal the theft of which their author has been guilty. We do not refer, of course, to legitimate and praiseworthy attempts to improve upon a method which may leave plenty of room for improvement. No one can raise an objection to that, since it would tend to stop all progress. But we do protest most strongly, as Mr. E. J. Wall did many years ago now, to the dishonest garbling of formulæ for a nefarious purpose.

We have been led to make this protest by some of the enquiries we have lately received upon the direct sulphur toning method, in their attempts with which the enquirers have gone astray from no other cause than by following vicious formulæ. Any worker who is anxious to succeed will be well advised if he adheres closely to the directions given by Mr. Blake Smith himself, the most recent and best of which are contained in his article published in *Photography* October 10th, 1903, vol. xvi., page 301.

The sulphite solution should not be too stale, or it will have become so decomposed as to fail to discharge the blue colour brought about by the iodine. It should not be put back into the bottle after use, but should be thrown away. The strength recommended by Mr. Blake Smith (five per cent.) is the best, but trifling variations one way or the other do not make any material difference. The function of the bath is simply and solely to discharge the blue stain, and if it will do this, it is working satisfactorily. If it will not, then the fault must be with the sulphite solution itself, which should be thrown away and fresh solution taken.

A means of decreasing the offensiveness of the smell of the sulphide will be found in Mr. Blake Smith's letter on another page. We must confess we have not regarded the odour as anything very objectionable. The solution is not very fragrant, certainly, but the odour is harmless and evanescent.

Before leaving the subject we should like to add a word to emphasise what has already been referred to, namely, the definiteness and unalterability of the tone. We have been asked by some whether this cannot be modified, whether some slightly different shade cannot be got by slightly different manipulation. The answer is and must be that the only change that can be made without depriving the process of one of its greatest merits, is effected by making the black print to start with, lighter or darker. The colour obtained is an extremely pleasant one, and if the process is properly carried out, is regular and invariable. And this is due to the fact that by it the image is converted wholly into one of the most permanent of silver compounds—the sulphide. Of no other toning process with bromide prints can this be said, and on no other form of toned bromide can such reliance be placed, at any rate from theoretical reasons.

Spirit of the Times

COMMONSENSE UPON PHOTOGRAPHY.

It is not often that one meets with a criticism of the photographic exhibitions in a non-technical journal that is at once so appreciative, so well informed, and so characterised by commonsense, as that which was published last week in *T.P.'s Weekly*. We should like to quote it *in extenso*, but our space forbids; but we may give at least the reply of the critic to the question, "Which exhibition to visit?" Both, says he, certainly. "There is not half the difference between the average quality of the work in the two shows that the promoters of one of them endeavour to make out. Many exhibitors are represented at both. There is usually a far larger proportion of works at the Royal that conform to pictorial canons than at the Salon. In fact, speaking broadly, it may be said that the exhibition of the Royal Photographic Society at the New Gallery illustrates what photography is capable of, but that the Photographic Salon of 'The Linked Ring' at the Egyptian Hall shows also of what it may be guilty. If the work at the latter were entirely of the nondescript character alluded to, the exhibition would probably be regarded by the 'vulgar public' as a photographic Chamber of Horrors—a stable of piebald nightmares. But fully fifty of the two hundred and fifty-three works exhibited this year are pictures; nearly fifty more are excellent photographs; and the attentive examination of a hundred exhibits is quite work enough for one day."

* * *

METRO-PHOTOGRAPHY.

Some notes on the progress of metrophotography are to hand in the *Bulletin* of the Société Française de Photographie, the current issue being entirely devoted to the subject, a long communication having been made by M. Laussedat in June last. The field, says the author, is so vast that it cannot be fully discussed within the limits of one paper. It relates to and is chiefly used for scientific observations, particularly in hydrography, meteorology, and astronomy. The perspective ideas given by a photograph taken from a sufficiently high point of view enable one to deduce by descriptive geometry the disposition of the borders of a sea or lake, rivers, canals, railways, and so on. Great use has also recently been made of the ability to measure distances by means of stereoscopic photography, both in topography and astronomy. Until recently photography has played no other *rôle* in this work than the one mentioned—of indicating distances—but far more uses can be made of it nowadays. Telephotography, combined with stereoscopic work, reveals much to the topographist which was almost impossible to ascertain before.

* * *

LIGHT FILTERS FOR THREE-COLOUR WORK.

The price of light filters for three-colour photography is a very evident drawback to the process, and deters many from taking up with the work. It has consequently led not a few photographers to try their hand at making filters, either by staining a gelatine film or by staining a gelatine solution and coating glass with it. Writing in *Photographische Mitteilungen*, Herr Arthur Berger advises the use of a solution of gelatine about ten per cent. in strength, which, after being several times filtered through actual filter paper instead of muslin, is used to coat the glass, so that a transparent film for subsequent staining is prepared. It is possible, by warming the gelatine solution with white of egg till the latter coagulates, to remove most impurities, and the thus "clarified" gelatine makes an excellent medium for staining. But, as a general rule, except for very accurate work, a fixed-out lantern plate will be found to take the dye perfectly well, and be as transparent as is necessary. We have found it invariably better to employ very strong solutions for staining, and always to mix a small quantity of fish glue with the blue dye. If the solutions be examined in a tank, and used as liquid filters, and altered until by the trial and error method they are optically correct as regards colour, they can then be bottled up and used for staining as required. It is very convenient to have two sets of filters, one a little darker than the other, as a darker screen, especially for the blue printing plate, often gives better ultimate results. The accuracy of the three-colour process, as regards the filters, even with the most successful workers, is, we are afraid, more theoretical than practical.

A Flower Photograph. By H. F. Taylor (see page 361).

"CONVEY, THE WISE IT CALL."

The American photographic magazines of to-day are a vast advance upon what they were five or six years ago; in fact, some of them are all that could be wished from a reader's point of view. In *Camera Work*, as we have often pointed out, they have the most ambitious and most sumptuous of productions, while *The Camera* is as practical and up-to-date a production as befits the large class to which we feel sure it must appeal. But if they have in some respects the best of magazines, they have in others the worst. *The Camera*, we note, has been threatening copyright proceedings against some of them. We wish it luck, as befits us as helpless sufferers ourselves. They do us no harm, it is true, but it is difficult to realise the moral status of such persons as those who are responsible for, say, the *Professional and Amateur Photographer* and the *Photo-*

American, who are a couple of the worst offenders. On quite a different plane is the *Photographic Times*, which, we are sure, would scorn to clip an article without acknowledgment; in fact, it carries its scorn so far as to publish its own translations of German articles, often months after accurate and grammatical translations have appeared in the British papers. And such translations the *Times* gives us, too! Here is the title of one of the latest to hand: "Photo-chemical Characteristics of Exposed and Fog-forming Bromide of Silver Kinds." In this article, we read, *inter alia*, "The degree of blackening could now easily be measured, which the picture at continued development (less fog), and, on the other hand, the chemical fog present by exclusion of light action, will take." And these are by no means solitary examples, nor the worst. They have some weird editors in the U.S.A.

* * *

DIRECT PHOTOGRAPHY IN COLOURS.

Worel's "direct" method is still attracting attention in Germany, and the *Photographische Mitteilungen* publishes some articles, the author of which has evidently spent considerable time in testing dyes and bleaching "sensitisers" for the process. The colours themselves are fairly limited in numbers, and all seem to be rather complicated derivatives, either of fluorescine or phenol. Cyanine, curcumine, auramine, and Victoria blue are mentioned as being those chiefly employed, together with *primrose à l'alcool* —a red dye soluble in spirit. Various reagents may be used to promote the bleaching action; in fact, the number of substances with which the author has experimented run into scores; ethereal oils, such as bergamot, angelica, peppermint, lavender, and thyme, can all be utilised, so that the operator will at any rate enjoy a more pleasant atmosphere than if he were toning with, say, a sulphur bath. A medium for thickening the colour solution is advisable, we are told, and collodion, albumen, or copal varnish may be used with success. The fixing bath does not seem to attain any novelty, as we are still advised to use copper sulphate; the commercial salt, however, should be recrystallised before use. It might be remarked that the formula of Dr. Neuhauss for the colours, which we quoted in these columns recently, is the simplest yet given for the work, and is not difficult or expensive to make up.

The Week's Meetings.

THURSDAY, OCTOBER 29TH

Glasgow Eastern. Carbon Printing. J. Wilton Rix.
N W. London. Westminster Abbey. E. W. H Piper.
Chester. Holiday Lecturettes by Members.
Handsworth. Lantern Lecture. W J. Morgan.
L. & P. Majorca.
Hull. Flashlight. A Hamburg.
Batley. Ruined Abbeys of Yorkshire. Rev. J. Beanland.
Rodley. Lantern Slides. C Grayson.
Ealing. Exhibition closes.
Gateshead. Enlarging. H. Wallis Wardropper.
Richmond. Faking F. P Cembrano.
Leigh. Coxin. W F Slater
South Norwood. Retouching Negatives and Bromide Prints
Liverpool A. Lantern Lecture. Dr. J. W. Ellis. Sixth Ordinary Meeting

FRIDAY, OCTOBER 30TH.

Croydon Nat. Lantern Night.
Boro. Poly. Lantern Slide Making hy Contact. W. Page.
Whitby. Developing Night. Negatives.
Walsall Carbon. D Johnson
Weymouth. Bromide Enlarging. F. C. Mace.

SATURDAY, OCTOBER 31ST

Great Yarmouth. First Print Competition closes.

MONDAY, NOVEMBER 2ND

South London. Lantern Night
Bowes Park. Competition: Illustration of Poetical Subject.
Ilford. Enlarging. G. U. Haslam.
Halifax. Nature Poets and Nature Pictures. Percy Lund.
Bradford Lantern Night.
Sunderland. Enlarging H Wallis Wardropper.
Kingston-on-Thames. Annual Meeting and Lantern Evening.
Catford. Technical Meeting (Enlarging).
Walthamstow. Lantern Night.
Stafford. Sinop Demonstration.

TUESDAY, NOVEMBER 3RD.

Sheffield Nature Poets and Nature Pictures. Percy Lund.
Goldsmiths' Institute Coxin W F Slater.
Heaton Snapshots in a Shipyard. J. A Mitchell.
Thornton Heath Photography with the Roll Film Holder. H. Maclean
Hackney. Excursion Print Competition.
Chiswick Enlarging without Expensive Apparatus. A. W. Green.
Manchester. Intensification and Reduction C. J. Atkinson.
Great Yarmouth. First Lantern Slide Competition closes.
Glasgow Southern Development with various Developers.

TUESDAY, NOVEMBER 3RD *(continued)*.

Hove. Colour Photography. Capt. W. N. Lascelles-Davidson.
Monklands. New Zealand. R. Dunlop.
Leeds P S. Watkins Method of Time Development. B A. Burrell.
Darlington Trade Demonstration J. Taylor
South Shields. Gum-bichromate Process. J. T. Carnaby.
Yeadon. Flower Photography. W. H Atkinson.
Brentford. Negative and Print Competition.
Nelson. *Photography* Prize Slides.
Keighley Enlarged Negatives F Rust.

WEDNESDAY, NOVEMBER 4TH.

Everton. Flashlight Groups. E. C. Alcock.
Croydon. Bromide Paper Demonstration. Wellington and Ward.
Leeds C.C. The Magic Carpet. E. R. Dibdin.
Bristol. Time Development. M. B. Fowler.
Boro. Poly. A Trip to Paris. A Brooker
Cricklewood. Lantern Slide Making. Hudson and King.
G.E.R. Mech Inst. Lens Making. Taylor, Taylor, and Hobson
Balham. Carbon Process. L. Kough.
Bishop Auckland. Stereoscopic Photography. R. Borrow.
North Middlesex. Lantern Slide and Print Competition.
Nottingham. Portraiture. H. Baker.
Photographic Club. Annual General Meeting.

THURSDAY, NOVEMBER 5TH

Glasgow Eastern. Flower Photography. D Dunlop.
N.W. London. Westminster Abbey. E. W. H. Piper.
Hull. Making and Colouring Lantern Slides. F. Woollons.
Chelsea. Lantern Lecture. G. C. Brown.
Ealing. Lantern Night.
Blackburn. A Holiday in Majorca.
Darwen. *Photography* Prize Slides.
Tynemouth. Pictorial Composition W. Fitzjames White
Richmond. Lantern Night.
Rontgen. Ordinary General Meeting.
South Norwood. Trade Demonstration. W. F. Slater
Liverpool A. Lantern Slides in Natural Colours. E. N Ellis.

FRIDAY, NOVEMBER 6TH.

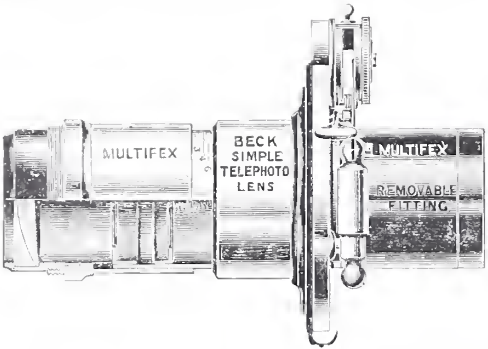
East Liverpool. Intensification. — Ball.
Watford P.C Lantern Night.
Boro' Poly. Development. G Wynne.
Chiswick Printing and Toning. J. Mann
Simpson Memorial Schools. Bromide Papers. Dr. A. T. Lakin.
Weymouth. Majorca Lantern Lecture.
Plymouth. Improvement of Negatives and Enlarged Negative Making. F. C Bowtell.

Societies will have their meetings announced here if the syllabus is sent to us at the beginning of the Session, or from time to time

A New Telephotographic Lens—the Multiflex.

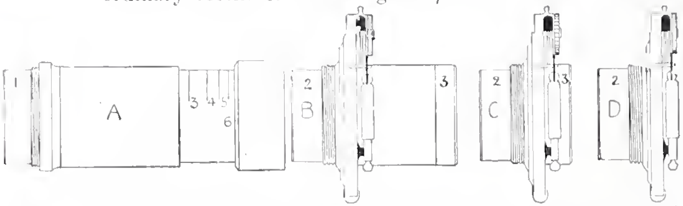
AFTER the first enthusiasm arising from the introduction of the telephotographic lens some twelve years ago had died down, comparatively little was heard of the instrument for some years. A small band of workers used it, and from time to time results were shown, but the general body of photographers had little to say to it. During the last few years, however, the telephotographic lens has become comparatively common.

The latest telephotographic lens of moderate price is that brought out by Messrs. R. and J. Beck, Ltd., as the Multiflex. It is made in two sizes, No. I. for quarter-plate and 5in. by 4in. size, and No. II. for half-plate and whole-plate. As it is light, simple in construction, works at a large aperture, and is fitted with a Unicum shutter and fulfils the duties of a whole battery of lenses from six inches to thirty-six, telephotographers are likely to increase in number.



For the benefit of those to whom this type of lens is unknown, it may be pointed out that it consists of an ordinary rectilinear or other rapid lens, having attached at the rear end by a sliding tube a negative lens. The image given by the positive lens is increased in size by the negative lens, and that with a comparatively short extension of the camera. The construction of the lens is clearly shown in the first illustration, in which part of the tube is shown cut away to expose to view the negative lens, and the webs in the tube that prevent reflections. It will be noted that on the sliding tube there are a few figures visible; they should be 3, 4, 5, and 6, and denote the number of times the image is magnified, for the closer the two parts of the lens are brought together the larger is the scale of the image. These figures, and the peculiar manner in which the diaphragms are numbered, enable the exposures for any magnification to be found with great ease.

The second illustration shows the various ways in which the lens can be employed. By unscrewing the sliding tubes marked A, and the extension tubes in front of the shutter, the front lens is replaced. An ordinary rectilinear working at f/8 is obtained as in C. In the quarter-plate size the lens has a focal length of six inches. By removing the front lens and placing the extension tube between the back lens and the shutter, a good landscape lens of eleven inches focus is obtained. When images on a still larger scale are wanted, the lenses and extension tube are replaced in their original positions and the telephoto attachment is screwed on; when by setting the sliding tube at the figures 3, 4, 5, and 6, the focus of the lens becomes 18, 24, 30, and 36 inches, with corresponding magnifications of the image. Set for its greatest magnification, the lens will cover a 10in. by 8in. plate, though it may be necessary to stop down, and the camera extension required is 15in. The price of the instrument in quarter-plate size is £3 3s., or mounted in magnalium £4 4s.



PICTURES FROM THE TWO EXHIBITIONS

THE ROYAL PHOTOGRAPHIC SOCIETY & THE SALON

The pictures which, by the courtesy of the exhibitors, we reproduce this week are:

27.—Pierrot. By Mabel Jennings. (Salon, No. 176, 13½in. x 7in., £3 3s.)

28.—The Last Gleam. By Frederick Graves. (No. 163 R.P.S., Invitation Section.)

29.—A Study. By J. Page Croft. (Salon, No. 250, 9in. x 6in., £1 1s.)

30.—Moil and Toil, Toil and Sweat. By T. Percivale Padwick. (No. 80 R.P.S., 12½in. x 7½in., £1 1s.)

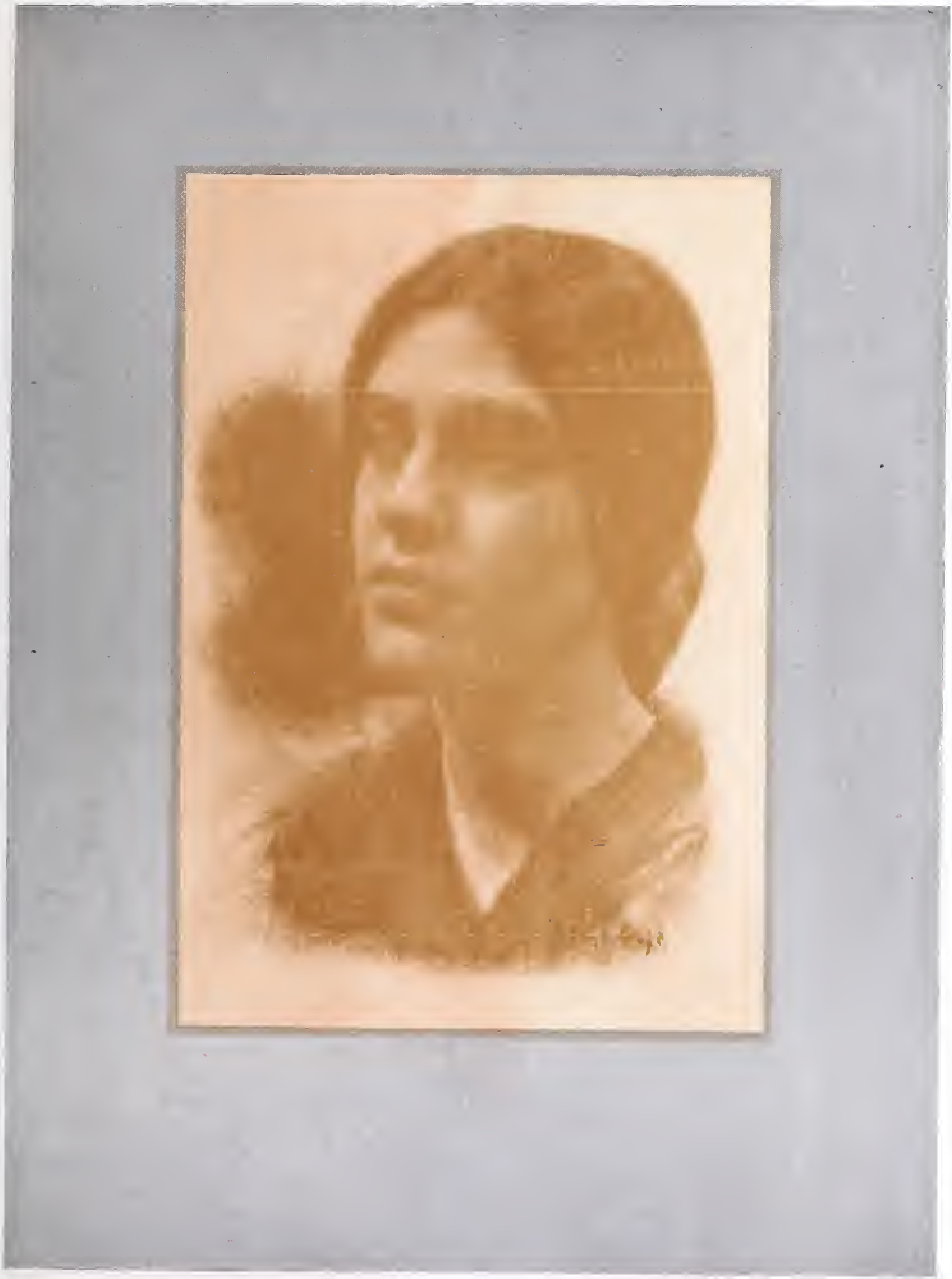
31.—The Newspaper. By William A. Stewart. (No. 103 R.P.S., 8in. x 5in., 30s.)

When a price is given it is for the framed picture, the sizes being the dimensions of the print, excluding frame and mount. Intending purchasers should communicate with the Secretary of the R.P.S., New Gallery, Regent Street, London, W.; or with the Secretary of the Photographic Salon, Dudley Gallery, Piccadilly, London, W., as the case may be.

PIERROT.

BY MRS. JENNINGS.

THE LAST GLEAM. BY DR. F. GRAVES.



A STUDY BY J. PAGE CROFT.

MOIL AND TOIL, TOIL AND SWEAT

BY T. PERCIVALE PADWICK

THE NEWSPAPER. BY WILLIAM A. STEWART.

Correspondence

For the free discussion of all matters of general interest to Photographers

The Editor is not responsible for the opinions of his correspondents.

THE SULPHUR TONING OF BROMIDE PRINTS.

Sir,—A few days ago I ordered some sodium sulphide of a local chemist, and when it arrived the bottle contained pure white crystals, without a trace of colour in any of them, so much so that I thought perhaps a mistake had been made and that a remarkably good sample of sulphite had been sent. In solution there is no doubt about it, the smell letting me know it is sulphide and not sulphite.

This, I take it, is a pure sample, or at any rate purer than any amateur could make it by boiling, as recommended by Mr. Blake Smith. The solution, too, is as clear as water.

It may be of use to your readers to know that it is possible to obtain this chemical, at any rate purer than the samples of which Mr. Blake Smith seems to have got hold. It came from Messrs. Morsons and Sons, Southampton Row, W.C. Yours, etc.,

JOHN BULBECK.

Sir,—In *Photography* for October 10th, 1903, you printed an article by me dealing with the toning of bromide prints. Since I sent you the article I have been experimenting with Schlippe's salt, and my experiments have led to some interesting results, although I regret to state they fully confirm what I said in my article about Schlippe's salt not being at all likely to prove of much practical use for toning purposes.

When sodium sulphide or a similar compound acts either on silver chloride, bromide, or iodide, if sufficient time is allowed, the halogen compound is entirely decomposed, and silver sulphide is formed quantitatively.

When, however, Schlippe's salt ($Na_3 Sb S_4 . 9 H_2O$) is substituted for the sulphide, I find the above result does not occur. There is always some silver haloid left unchanged, and according to the percentage of unchanged haloid the colour varies. The colour varies with the particular haloid present. In the case of the employment of a neutral solution of Schlippe's salt, a very considerable amount of the silver haloid remains unaltered, but with solutions containing a caustic alkali a very much smaller quantity is so left. The silver haloid and the silver thioantimonate do not exist as a mere mechanical mixture, but form some sort of molecular compound, which is stable when treated with a strong solution of hypo, but is decomposed by sodium sulphide solution of sufficient strength.

When silver chloride is treated with a solution of Schlippe's salt and caustic soda, only a very small portion indeed of silver chloride, if any, is left. It is difficult to be quite sure on this point without somewhat elaborate experiments on a considerable scale, which I have no means at present of making. In any case, we may safely conclude that a print bleached to silver chloride with a suitable solution, and then after thoroughly washing treated with Schlippe's salt six grains, caustic soda one grain, and water to one ounce, will possess an image which undoubtedly may be considered to have good lasting properties. The colour of the image, however, is only slightly different from what can be obtained with sodium sulphide—it is rather a warmer brown.

No doubt, since everybody's taste differs, there will be some who prefer this tone to the one obtained with sodium sulphide, and in this case I do not think there can be much objection, if any, to the use of the above solution in place of sodium sulphide. But for my part, even if I did slightly prefer the thioantimonate tone to the sulphide one, which I do not, I should still use the latter, as the fine lasting properties of a sulphuretted print are indisputable.

I wish it to be quite clear that I do not state that an image composed of silver thioantimonate containing a small percentage of silver haloid combined with it in the form either of a definite molecular compound, or a "lake" is certain to prove unstable. It is true that it is very susceptible to the attack of small quantities of sulphuretted hydrogen in the air, and so would probably darken somewhat on keeping. All I say is that on purely theoretical grounds an image containing a halogen compound of silver, even if that compound is in a way chemically combined, as in the present case, must be regarded as to its lasting properties with a considerable degree of suspicion.

After all, however, practical tests and not theoretical considerations must decide, and it is quite possible that a print toned with a neutral solution of Schlippe's salt may possess adequate lasting properties. Even so, the objection as to the uncertainty of the resulting tone which I pointed out in my article will have to be got over to render the method of any general use. No doubt a very slight alteration in the various conditions prevailing alters the proportion of haloid present, and so affects the colour considerably—and this alteration in the conditions is so slight and subtle that I have not been able to follow it out. An iodine bleached print is necessary for a carbon red tone.

In conclusion, there are a few remarks I should like to make on the sulphuretting method. I notice that in *The Practical Photographer* for October, 1903, on page 47, the editor states that bromide prints bleached to silver chloride, and then sulphuretted, yield a yellower tone than those bleached with iodine. The reason for this is that the chlorine solution employed was one made up on erroneous lines. If a properly made-up solution of either chlorine or iodine, or other similar solution, is employed, the resulting tone is the same in all cases, and is a function solely of the original silver deposit, as I have often before pointed out. The particular error under notice consists of using a solution of bleaching powder containing too little hydrochloric (or other) acid, so that the print was exposed to the action of calcium hypochlorite and hypochlorous acid—substances which, as is well known, exert a reducing action (in the photographic sense) on the gelatine film.

If one method of carrying out the indirect sulphuretting of a silver image yields a yellower tone than another—the silver images being quite similar—it is quite certain that during the process reduction to some extent has taken place. If a lighter and yellower brown is desired than that which is obtained by using the exact method I advised in my article, it should be obtained by developing a greyer silver image, as this is the most certain and scientific method of attaining this result.

The correct method of making up the bleaching powder solution has already been given by myself, and is as follows:

Dissolve with stirring some bleaching powder in water, taking sufficient bleaching powder to give a solution containing five grains to the ounce. Filter the solution. To the clear filtered solution add concentrated hydrochloric acid, taking five to six minims for every ounce of solution. This gives us a solution containing practically only calcium chloride and free chlorine. I strongly advise the iodine solution I recommended in my article, however, as it is so much more pleasant to use, and after it no long washing is necessary. We only have to immerse the print in five per cent. solution of sodium sulphite ($Na_2 SO_3 7H_2O$), and can then, when quite free from iodine, immerse directly in the sulphuretting solution, although, of course, an intermediate washing in water will do no harm.

To some people it appears that the smell of the sodium sulphide is rather a drawback. I personally do not consider that, when in good condition (*i.e.*, dry and unattacked by the carbon dioxide of the air), its very slight odour is anything to bother about. Still, perhaps some would like to know that the addition of caustic soda decreases what little smell there is. About 0.25 per cent. (or one grain to the ounce) is the right amount to use. Even with so little the danger of blistering is increased, although it is not made very great. The caustic soda can be added either to the sulphuretting bath, or to the stock solution. I personally do not use it.

The reason for the action of caustic soda is simple. The smell is due to *slight* hydrolysis of sodium sulphide ($Na_2S + 2H_2O = 2NaOH + H_2S$), and it is the sulphuretted hydrogen which is the cause of the odour. Caustic soda, of course, prevents to some extent the hydrolysis, and so does away with some of the smell.

There is perhaps one other point which I should have mentioned in my article—it is that when the hypo-alum bath is going to be used at a temperature above the normal temperature of the air, a previous alum bath is advisable. The print should be washed after fixing before the alum, and again, not, however, very carefully, before being put in the toning bath. I do not, of course, advise the hypo-alum toning bath at all.

Yours, etc.,
R. E. BLAKE SMITH.

TONED LANTERN SLIDES.

Sir,—As I may fairly claim to have first published the methods of toning referred to by you in your note on page 346 on M. Molteni's lecture, perhaps I may be allowed to make a few comments.

The copper bath recommended has a serious defect in that it is very liable to give double tones, blue lights and red shadows. The result is also variable, and may be anything between a red and a lilac or purple. A simple chlorising solution of potassium bichromate and hydrochloric acid gives more reliable results and a better red, while ferric chloride gives an exceptionally bright red from a very dense image.

It must be noted that every different chlorising solution gives a different colour. The two baths mentioned I more especially recommend together with the following: Copper chloride or bromide followed by potassium iodide gives an umber brown, and ferric chloride followed by potassium bromide gives a good sepia. Mercury bromide, chloride, and iodide also give three distinct tones when the bleaching is followed by exposure only, but these three methods are suitable only to weak images, while the other four require dense ones.

The iron processes require very dense images with slight fog, while mercury iodide is only suitable to the weakest possible image free from fog. This last process gives an orange image that is a brilliant Vandyke brown on the screen. All these methods are of practical utility, as they are very easy and certain, and as permanent as can be desired. Further, they are applicable to slides that are useless for any other purpose. Any process of after development diminishes the ease and certainty, and leaves the permanency somewhat doubtful if not carried as far as it will go.

I may add that it is useless to follow mercury bromide with either ammonia or sodium sulphite, as only a very slight effect is produced, and this slight effect is nonpermanent. Hypo can be used after either mercury bath, but ammonia or sulphite only after the chloride. The result of such application is usually a deep transparent purple brown, but this is not always the case. Hypo is a good remedy for shadows clogged by the mercury bath alone. If the shadows are still too strong they may be reduced with persulphate.

It is worth noting that an image in silver chloride can be slightly intensified either by mercury bromide or copper bromide followed by exposure. Also that any chloride image can be converted into the corresponding bromide or iodide compound by the application of potassium bromide or iodide. Bromide can be converted into iodide in the same way, but the changes cannot be reversed in a similarly easy fashion. I have tried most of the possible variations, and those mentioned are the only ones specially recommended for warm tones.

Yours, etc.,
C. WELBORNE PIPER.

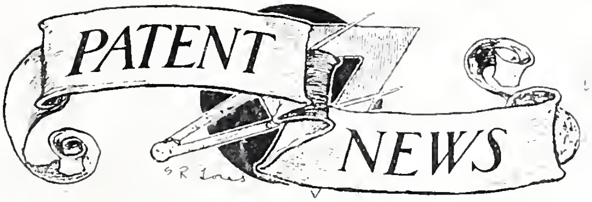
INSTANTANEOUS THREE-COLOUR WORK.

Sir,—With reference to Sir Wm. Abney's article on three-colour work, I write to inform you that a three-lens camera was invented and patented by Captain Lascelles Davidson some four years ago. With this camera and liquid lenses having colour material in fluids it is quite possible to secure instantaneous quarter of a second exposures in fair light of perfect colour value. With a baseboard on which the camera slides portraits may be taken, each lens being brought successively to the same point of view.

One difficulty Sir Wm. Abney has overlooked is that process workers insist on the manufacture of three-colour half-tone process blocks, and that the negatives should be all taken at the same aperture. It is not possible to make satisfactory blocks if the blue is stopped down to, say, f/32 and the red used at, say, f/4. It is therefore necessary that the screens should be constructed of sufficient density to allow of the three lenses being used at the same aperture. The cameras so far constructed to take three negatives with one lens by splitting up the image inside the focus with prisms or mirrors are far too slow for practical use. Of course, if the red screen is not a true colour filter, as most of the screens on sale are not, it is possible, owing to the amount of blue passing through the red, to obtain results in far less time, but the results thus obtained show very degraded colours. If fidelity to nature is not desired and only some exhibition of colour, then a false red screen may be used, but this is hardly fair; still, in some cases it is impossible to avoid. For most purposes no blue screen is required at all, and red and green are the only screens really necessary.

These practical points may be of interest to some of your readers, and are founded not on theory, but on practical experience.

Yours, etc.,
E. GRÜN.



The following specifications of patents relating to photography have been published, and copies may be purchased at an uniform price of 8d., at the Patent Office, Sale Branch, 25, Southampton Buildings, London, W.C. The price of the specifications includes postage to any part of the United Kingdom. The additional postage to foreign countries is usually ½d. per specification. Postage stamps must not be sent on payment of any amount exceeding 11d. In ordering the name of the patentee and both the number and year of the patent must be given.

1902.

25,821.—Farbenfabriken vorm. F. Bayer and Co. Sensitive emulsions.

1903.

6,356.—Reichel. Photographs in natural colours by the three-colour process.
11,150.—Ames and Rearson. Cameras.
18,033.—Gerstäcker. Flattening photographic and other prints.
18,808.—Oldfield. Lamps for enlarging.
18,872.—Hunaeus. Daylight developing apparatus.
18,873.—Gundermann. Cameras.
18,985.—Seed. Shutters.

A COMPETITION for sets of lantern slides illustrating Mr. E. Rimbault Dibdin's lecture, "The Magic Carpet," is being organised by the Liverpool Amateur Photographic Association. Copies of the lecture may be had from Messrs. H. Young and Sons, South Castle Street, Liverpool, post free sevenpence. A silver cup, valued at five guineas, is offered, and the competition is open to all amateurs. The association is to have the option of purchasing the winning set at a price not exceeding half a crown per slide. The entrance fee is two shillings and sixpence, and entry forms may be had from the honorary secretary, Mr. E. Simnett, Percy Buildings, Eberle Street, Liverpool.

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THE BAUSCH AND LOMB COMPETITION has now been judged. We learn that there were nearly 8,000 prints submitted.

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THE GUM-BICHROMATE PROCESS was demonstrated by Mr. J. C. S. Mummery at the Bowes Park and District Photographic Society on the 19th inst. He said the paper he used was a machine-made drawing paper. The brush used for getting the coating even was a gilder's hog-hair softener, which was quite as suitable and much less expensive than the badger softener so often considered indispensable. The gum solution is prepared by dissolving four ounces of gum arabic in twelve ounces of water. For colours he used ivory black and burnt sienna, a suitable formula being: Ivory black, 45 grains; burnt sienna, 7 grains; gum solution, 1¼ ounces; and potassium bichromate (saturated solution), 1 ounce. Mr. Mummery said that after the paper was coated it was an easy matter to dry it on the rack of a kitchen grate, care being taken to see that the fire was only moderately warm.

SNAP SHOTS

NEWS · NOTES FROM MANY SOURCES

SULPHUR TONING was demonstrated by Mr. Cothay on Monday at the Sunderland Society.

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PHOTOGRAPHY WITH A PURPOSE formed Mr. McLauchlan's subject at Brechin on Wednesday.

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AT THE ANNUAL MEETING of the Shropshire Camera Club on the 13th inst. Mr. H. W. Hughes was elected president, the treasurer and honorary secretary remaining in office. A dark room and an enlarging room have been added to the club's premises.

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THE ISLE OF MAN CAMERA CLUB has opened its third session with increased membership and renewed vigour. From a syllabus just to hand we notice that the lieutenant-governor of the island, Lord Raglan, is patron, whilst other influential gentlemen interested in photography are vice-patrons. With such enthusiastic workers as Rev. H. Mudie Draper as president and W. H. Skillicorn as honorary secretary, good work may be expected.

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ENLARGING AT HOME without expensive apparatus was dealt with by Mr. Green at the Cripplegate Society on the 19th inst. He showed a number of enlarging cameras sent by Messrs. Griffin and Sons. One of these set to a fixed focus was inexpensive, and though primarily constructed for use with daylight, might also be used by artificial light. A compound screw fitted to one of the cameras enabled the lens, paper, and negative to be always in focus, no matter what degree of enlargement was being made.

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AT THE ANNUAL MEETING of the Woodford Photographic Society, the following officers were elected: President, Mr. F. G. Emler; vice-presidents, Messrs. A. Horsley Hinton and W. L. F. Wastell; affiliation delegates, Messrs. J. P. W. Goodwin and E. C. Winney; council, Messrs. E. Marriage, E. H. Carpenter, P. G. R. Wright, and H. Wilmer; lanternist, Mr. R. Malby; honorary secretary and treasurer, Mr. H. T. Malby, Blyden Villas, Chelmsford Road, Woodford; assistant secretary, Mr. F. T. R. Hillsworth.

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A LECTURE on lantern slide making was delivered at the Institute of Marine Engineers on the 18th inst. by Mr. F. M. Ainsley. His object, he said, was to induce those who were photographers to take up slide making and to give them a few hints on procedure. When reproducing drawings or diagrams to be shown on the screen for lecture purposes, he advised that, instead of a positive, a negative should be used as a lantern slide, as a diagram in white lines on a black ground was more striking than black lines on a white ground.

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THE THORNTON-PICKARD PRIZE COMPETITION has resulted in the following awards: Class I.—First prize (£10), Miss Agnes Tomlinson; second (£5), Miss Ella Tomlinson; third (£3), Aubrey Harris; six prizes (£2 each), W. Bratherton, J. Walker, Andre Callier, Miss Mary C. Eames, J. Garton, and H. A. Hawkins. Class II.—First (£10), A. W. Sargent; second (£5), Mrs. S. Mahony; third (£3), M. Browne; six prizes (£2 each), C. J. Waters, Mrs. Hughes, W. Reginald Prior, F. Spalding, G. Anderson, jun., and E. Nagel. Class III.—First (£10), Mrs. G. A. Barton; second (£5), Victor Stouffs; third (£3), D. Dunlop; six prizes (£2 each), Miss Sybil Aird, T. Steel, Mrs. M. Preston Durn, G. E. Low, A. Durn, and W. U. Kirk and Sons. Class IV.—First (£5), W. P. Thomson; second (£3), Dr. Cecil Shaw; and third (£2), T. G. Pearce.

STEREOSCOPIC WORKERS may be interested to learn that at the Hackney exhibition there is an open class, which closes on October 31st, for this subject.

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A DEMONSTRATION of the working of Messrs. Wellington and Ward's films and of Coxin was given by Mr. W. F. Slater at the Preston Scientific Society (photographic section).

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AT THE PLYMOUTH PHOTOGRAPHIC SOCIETY an album, to be filled with prints by the members of the society, was presented to Mr. Dymond, the late president, as a token of the esteem in which he was held.

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THE POCKET PHOTOGRAPHY CO., LTD., informs us that it has come to an arrangement with Kodak, Ltd., whereby the latter undertakes the sole wholesale supply of the "Pocket Dark Room." The apparatus will shortly be on sale and demonstration at all the branches of Kodak, Ltd.

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THE DESIRABILITY of a society for pinhole workers was dealt with in our "Spirit of the Times" for the 17th inst., and as a result we have received an intimation from Mr. J. Hughes Horwill, of Shawford, Hants, that he has undertaken to form a postal club exclusively for pinhole workers, and will be glad to receive the names of those willing to join it.

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A DEMONSTRATION of the powers and properties of radium was given by Mr. J. Lowdon at the Dundee and East of Scotland Photographic Association on the 21st inst. A fragment weighing five milligrams was exhibited, and the lecturer demonstrated that the invisible something that proceeds from the elements is akin to, but in many respects differs from, the more familiar X rays.

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"DEVELOPMENT" was the subject of Mr. Luboschez's lecture at the Liverpool Amateur Photographic Association on the 22nd inst. Having stated his methods of working, he gave a demonstration with Coxin. An exposed plate was handed to him, and after a preliminary bath of Coxin, it was developed in the light of twelve 52 c.p. lamps. The first developer, supplied by one of the members, proved to be very stale and practically useless. A fresh developer was made up and the negative developed free from fog.

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LANTERN-SLIDE MAKING was demonstrated by Mr. Hawden Wilkie at the Balham Camera Club on the 14th inst. His method of keeping the printing frame at a standard distance from the light was to use a cord knotted at intervals, and to tie one end to the gas bracket. He recommended amidol and hydrokinone as developers, stating that briefer exposures might be given with the former. To get even illumination by artificial light he burned magnesium ribbon near a sheet of white cardboard, which reflected the light through the negative.

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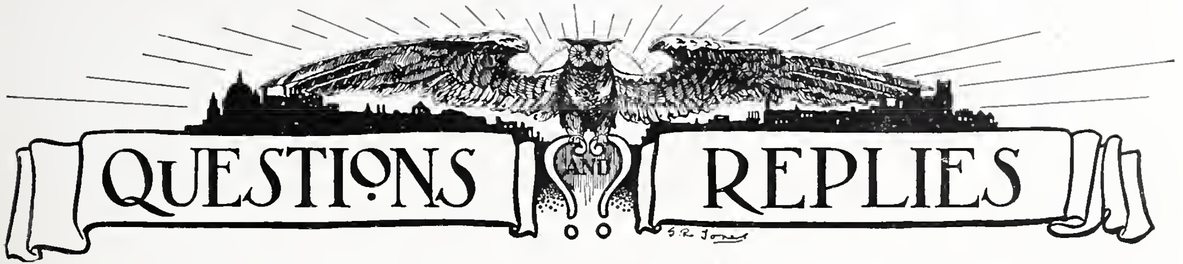
AT THE ANNUAL MEETING of the Birmingham Photographic Society the following officers were elected: President, Mr. A. J. Leeson; vice-presidents, Messrs. H. J. Collins, A. C. Baylis, J. A. Cossins, and T. Taylor; council, Messrs. W. T. Greatbatch, W. A. Clarke, A. Fenn, W. Tilt, H. J. Yates, Shirley Smith, E. D. Taylor, and T. Cooper; treasurer, Mr. Lewis Lloyd; lantern curator, Mr. Bernard Moore; librarian, Mr. G. Whitehouse; honorary secretary, Mr. H. Vooght-Cornish, Norwich Union Chambers, Birmingham; assistant secretary, Mr. Harry Goode.



QUESTIONS AND REPLIES

Readers wishing for information upon any specific point in connection with photographic theory or practice are invited to make use of the "query form," which will be found amongst the advertisements. All enquiries must comply with the conditions stated upon the query form; those which do not do so are neither acknowledged nor answered. All enquiries are answered by post. We cannot undertake to make replies in the paper. We print below from time to time a selection from the queries we receive, and our replies.

BLEACHING PRINTS FOR REDEVELOPMENT.

How is a print bleached in chlorine water in order to redevelop it with hydrokinone, etc.? The chlorine that I used was chloride of lime solution, and completely dissolved away the film on bromide paper.

Chloride of lime solution is not chlorine water. The making of the latter is a suffocating operation, and is quite unnecessary for the purpose in hand. The image may be converted into silver chloride by immersing it in a solution of potassium bichromate 15 grains, hydrochloric acid 1 dram, alum 75 grains, in water 3½ ounces, after which the print must be well washed before being again developed. Should there be any difficulty in getting rid of the yellow bichromate stain, a five per cent. solution of potassium metabisulphite will discharge it.

LANTERN SLIDES BY REDUCTION.

I have a number of negatives 7½in. by 5in., and I want to make lantern slides of them. Is it necessary to buy a reducing camera, or what do you recommend?

In reducing from 7½in. by 5in. to lantern-slide size there is no absolute need to buy a reducing camera, though it undoubtedly is a convenience, and makes the work easier to do. All that is really necessary is to support the negative in such a position that its plane shall be parallel to that of the lantern plate in the dark slide of the camera and the centres of the plates opposite to each other. The negative may be held in a frame fitted between the bottom of a raised window sash and the window sill. A sheet of white cardboard suspended behind the negative at an angle of forty-five degrees to the vertical will reflect the light from the sky through the negative. The camera may be supported on an ordinary table if provision is made for clamping it in position. The space between the negative and the lens may be covered in with the focussing cloth hung over a couple of rods. Carriers can be bought or made to hold the lantern plate in the dark slide. Such a makeshift contrivance is sometimes more useful than the ordinary reducing camera when clouds have to be printed into landscapes.

CALCULATIONS WITH TELEPHOTOGRAPHIC LENSES.

I have a six-inch lens to which I have had fitted a negative attachment. On testing the combination at fifty feet and three hundred feet I found I could not get the proper focus of the telephotographic attachment. I want to calculate tables, as in Mr. Marriage's book, for near subjects and those at infinity.

The difficulty appears to arise from the use of the equivalent focus of the lens in all cases when working with the formula. When focussing on near objects the lesser conjugate focus of the positive lens, that is, its distance from the screen when used without the telephotographic attachment, should be substituted.

By the law of conjugate foci the nearer the object is to the lens the farther away the image is from it; or, to put it in another way, the focus of the lens lengthens as the object is brought closer. The lesser conjugate focus of the lens may be found as follows: Divide the distance from the lens to the object by the number of times less one the equivalent focus of the lens will go into that distance. For example, the object is twenty-four feet from a six-inch lens. Dividing 288 inches by six we have forty-eight, and subtracting one leaves us with forty-seven, and that divided into 288 gives 6.127 as the distance from the lens to the image. By using this in the formula in place of the equivalent focus, the desired information should be obtained.

DISTEMPER FOR IMITATION STONEWORK.

Please say how to make a simple paint or plaster for use on imitation stone walls, etc.

Distemper is the simplest kind of paint to give the required effect. A cake of whiting is placed in a pail with as much water as will cover it, and when the whiting has absorbed as much as possible the surplus water is poured off. A pound of double size is then made hot in a tin can or saucepan, and mixed up with the whiting, which should be allowed to stand for a day, and then beaten up before use. At this stage lampblack, brown umber, or any other colour may be added. It must be remembered that distemper dries much lighter in tint than when wet, and a few trials should be made to secure the correct shade. A little sharp sand may be added to give a rough appearance when required.

STORING CARBON TISSUE.

I have tried the carbon process lately, but have lost some of the tissue, as I have kept it too long. Please say if the carbon tissue keeps for a certain time, as from what I have read sensitising is not a difficult matter. Which is the best way of storing the insensitive tissue?

Sensitive carbon tissue will keep in good condition for months if stored in an air-tight box with a supply of calcium chloride to absorb moisture. Boxes of this description are sold by the Autotype Co., and can be obtained from all dealers. Insensitive tissue if kept flat and dry in an ordinary drawer will not deteriorate for years. Sensitising is a very simple matter. The points to be borne in mind are that the solution should be of a standard strength, say three per cent., unless it is purposely modified to suit a particular class of negative. It should be neutralised by the addition of ammonia, say one dram to thirty ounces of solution. The tissue should be immersed for a standard time; three minutes will do very well, and the surplus liquid should be squeegeed off. Drying may be done in any ordinary room that is dry and dark (that is, not illuminated with daylight) during the time occupied, which should not be less than four hours, nor more than eight. If the sheets of tissue are suspended face upwards over a round bar, such as a window blind roller or broom handle, they will not buckle, as they may do if suspended by one corner. We should advise you to adopt the procedure recommended by Mr. Bennett in our issue for October 17th on page 321.

NEW BACKGROUND TO A FIGURE.

Will you please tell me how to remove the background from a negative and to substitute another?

Actually to remove the background from a negative and to substitute another is a very delicate operation, in which the negative would probably be spoiled. We presume the case will be met if a new negative is produced with the required background. The simplest way of working is to make a print on thin silver paper and to cut the figure out and attach it in position on a print of the background that is preferred. From this combination print a new negative may be made. When only one or two prints are wanted without making a new negative a print is taken, and without toning or fixing the figure and the surrounding are carefully cut apart, and the paper is then blackened in the sun. One portion is used to mask out the background in the negative, allowing the figure alone to print, and the other portion is used to cover the figure when printing in the new background. Much skill is required to get perfect registration.

DISHES FOR THE SEPIA PLATINOTYPE PROCESS.

The Platinotype Company in their instructions for the manipulation of sepia paper say that an enamelled iron dish which has once been used in developing sepia prints should on no account be employed afterwards in developing black prints. Does this rule apply to granitine dishes?

If the granitine dishes are thoroughly cleaned out, and there are no roughnesses nor cracks (as, of course, there should be none in such ware) in which the chemicals may lodge, there can be no objection to using the dishes for both purposes. The enamel surface on iron ware quickly cracks and deteriorates, and if used for both purposes will carry contamination from one bath to another. Even with granitine dishes, although the risk is much less, it is better to keep each dish to one purpose when possible.

FORMULA FOR ORTOL DEVELOPER.

Kindly oblige me with a formula for a two solution ortol developer that will keep well either in the separate solutions or mixed? Is this developer good for bromide paper?

A good ortol developer is made by dissolving seventy grains of ortol in a solution of thirty-five grains of potassium metabisulphite in ten ounces of water. The second solution is made by dissolving an ounce and a half of sodium carbonate and an ounce and a half of sodium sulphite in ten ounces of water. Both solutions keep well if properly corked up, but they will not keep when mixed. Practically no developer that is of any use will keep long in the presence of the alkali. Ortol will develop bromide paper, although we prefer metol for the purpose. The two solutions may be mixed in equal parts and used so, or this may be diluted with its own bulk of water, which is the course we prefer.

CARBON PRINTS FROM THIN NEGATIVES.

Can a good carbon print be made from a thin negative by printing through tissue paper, or what is the best medium to use? I have read that the continuing action of light would give the same results from a thin negative as I would get in the ordinary way from a dense negative. I find that a print kept for thirty-six hours does not differ in brilliancy from one developed immediately after printing. I use a Wynne meter for platinotype printing, and do not see why it should not indicate the correct exposure with carbon tissue.

The only way to obtain a good print in carbon from a thin negative is to use a tissue which has been sensitised in a weak bichromate bath. The weaker the bath within reason, the more brilliant the result from a flat negative. It is said that in employing the continuating action the tendency is to make the print a little harder, but we should not be surprised to find that there was not much difference visible in the results in that respect. The Wynne meter is quite suitable for carbon printing, but our advice is not to try to get carbon prints from thin negatives. It is only a vexation. We would refer you to Mr. Bennett's article a fortnight ago.

DISTORTION IN PANORAMIC PICTURES.

Can you tell me why the sea line in the print I send is not straight? I may say that I pointed the camera upwards, as I wanted to get the clouds in the picture, and did not want so much at the bottom of the picture. Would that have anything to do with it?

The curved horizon in the photograph, which is obviously from a negative made in a panoramic camera, is due entirely to the camera having been pointed upwards. When the lens starts on its course it is pointed in nearly a horizontal direction towards the left hand, and the horizon occupies a central position at the end of the film. As the lens travels round it is more and more directed upward till it reaches the middle of its course. As it does so more and more of the sky is included, and the horizon is accordingly depressed. As the lens completes its course the horizon line again approaches the centre of the film. Distortion of this sort can only be avoided by keeping the camera level. If there is too much foreground it must be cut away. It would certainly be a great convenience if such cameras were fitted with a rising front, or failing that, if the lens were set permanently above the centre. It is seldom that the horizon line is wanted in the middle of the picture, and in cases where more foreground than sky is wanted it could be secured by turning the camera upside down.

SPOILED BROMIDE PAPER.

I have a lot of bromide paper four or five years old, which gives very bad prints. Is there any remedy for this, or shall I have to destroy it?

Judging by the example sent, we fear that the paper is hopelessly spoiled. It is simply a waste of time to experiment with stale paper or plates. There are no practical means by which they can be renovated.

IODIDE INTENSIFIER.

Can you give me the formula for Lumière's iodide intensifier with instructions for using?

The formula is: Mercuric iodide, 30 grains; anhydrous sodium sulphite, 300 grains; water, 7 ounces. The sulphite is first dissolved and then the iodide. After intensification, the plate must be well washed and developed with any clean working developer containing an alkali, such as metol, hydrokinone, kachin, or edinol. It has also been suggested by Mr. G. T. Harris in these columns that to ensure reasonable permanency the intensified negative should be fixed in hypo, and, of course, well washed.

PHOTOGRAPHING BY FLASHLIGHT.

Is magnesium ribbon better than magnesium powder when photographing in a dark interior? It seems to me that the shadows might be softened by waving the ribbon about

If two flashes are made in suitable positions the shadows will not be at all sharp. Most flash lamps give a very broad expanse of flame, and even with one flash the cast shadows will not have hard edges, but if the room is at all large two flashes will probably be necessary to give the required amount of light. The difficulty with the ribbon is that a very large amount must be burned, and before it is consumed the room will be filled with smoke. For the same reason it is desirable that when two flashes are given they should be simultaneous. If this cannot conveniently be done, the smoke of the first should be allowed to dissipate before the second is made.

VIGNETTING PRINTS ON BROMIDE PAPER.

How are vignettes made on bromide? I use the mask that I make them with on P.O.P., but the result, as you will see by the enclosed print, is not at all satisfactory. I suppose the shaded glass masks are generally used, but they are not of a shape to suit all busts.

The ordinary serrated card may be used in bromide printing as with printing out papers, but the serrations should be finer than in that with which the enclosed print was made. At the same time the printing frame should be kept moving in a circular direction still further to diffuse the light. If a sheet of tissue paper is stretched flat over the printing frame, but at from half to one inch in front of it, and the mask is supported half an inch in front of that, the light will be sufficiently diffused without waving the printing frame about. The farther away the mask is from the negative the smaller must be the opening and the softer will be the vignette.

NOTICE TO ENQUIRERS.

Answered by post: W. T. F., G. C. D Collis, N. Smith, E. O. Q. Patrick, Bigum, Sulphur toner, T. Warren, F. A. Ward, G. R. L., H. Jackson, Smelly, W. S. Utter, A. L. D, P. Leicester, Alphonse, R Bull, Edinol, F. Mc J. Davidson, Stanhoe, Tri-colour, M. R., H. J J. Barton, Constant Reader, Mrs. G. H. Tarrant, Mechanician. F. Goggs, E. C. J., Novocastrian, J. S. Hill, Herne Bay, William Bulkeley, M. T. Bryant, T. F. T., J. Hall, K. C. Chambers, Southport Amateur, Constant Reader G. Rowley, S. S., W. Cooke, Orthochromatic, Subscriber, M. H. Bullard, Adon, G. J., H Day, Appendix, Hampstead, A. R. C., F. Laurie, F. Bellecour, Notting Hill Gate, J. H. Walkeley, Walter Lawson, T. Dickson, Damp-course, Edgbaston, Miss Charlotte Ritchey, Norris Bryce, Professional, L. Wollaston, W. W. E. Osbaldeston, J. C. F., Adams de Luxe, Camperdown, G. C., G. Coade, V. W. Baker, King's Lynn, P. G., No. 3 F. P. K., C. N. Meakin, Gaslight, Organist, F. S. Penny, Wellington Film, Tollington Park, R. W. S., J. Miles, B East, Planiscope, H. W. Turberlayne, G. Coverdale, H. Y., W. Ledgard, F. A. Nicol, Typewriter.

CHEMICAL & PHYSICAL NEWS

A weekly summary of those sciences upon which all photographic processes are based

Specially compiled for Photography by Prof Fergus J McInnes

THE LIGHT VALUE OF THE MAGNESIUM FLAME.

DR. EDER has been examining the chemical brightness of the flames of magnesium, aluminium, and phosphorus, and an abstract of his work is given in the *Journal of the Society of Chemical Industry*. The author uses the term chemical brightness to signify the degree of light action upon a plate or surface of silver bromide in gelatine. Magnesium light alone is not directly suitable as a standard for exact photographic purposes, as the effect of a given quantity of magnesium depends upon the method of igniting, the nature of the metal, whether ribbon or powder, the surrounding gaseous medium, and the admixture of substances capable of giving off oxygen. In an atmosphere of oxygen, the action of burning magnesium is three times as great as in the air. Small pieces of ribbon have relatively smaller effect than larger pieces. Aluminium leaf burns rapidly in oxygen, with emission of a strong and powerful light, while phosphorus is only photo-active to a small degree as compared either with magnesium or with aluminium.

CELLULOSE ACETATE.

EARLY in the year 1902 an acetyl derivative of cellulose was described by E. Bayer, and letters patent were duly taken out to protect it. In this patent the method given was to treat 200 parts of cellulose with eighty parts of acetic anhydride and twenty parts of sulphuric acid, with or without a suitable solvent, or an acetyl derivative of hydro cellulose is prepared in the same way. The acetyl derivative is soluble in chloroform and other usual solvents of this body, whilst the hydro cellulose derivative is soluble in alcohol. In a further application and communication just published, M. Bayer states that he now finds that the reaction previously described takes place in two stages. The first is the formation of an acetyl derivative, which is soluble in alcohol, and the second, by the further action of the acetic anhydride, the formation of an insoluble derivative. The soluble derivative is prepared by acting on two kilos. of cellulose with a mixture of eight kilos. of acetic anhydride, eight kilos. of glacial acetic acid, and 400 grammes of concentrated sulphuric acid at a temperature of 20° to 25° C. The whole becomes syrupy after about ten hours. When the precipitate, obtained by adding water to a small sample taken from the bulk, is soluble in alcohol, or only shows a small quantity of insoluble, or unconverted, cellulose present, an excess of water is added to the mixture, and the precipitate washed free from acid and dried. The aceto cellulose thus formed is soluble in hot alcohol, and on cooling coagulates to a strong jelly. This solution is said to be suitable for photographic emulsion work, and many applications in other directions may be found for it.

PROF. OLIVER LODGE ON THE ELECTRON.

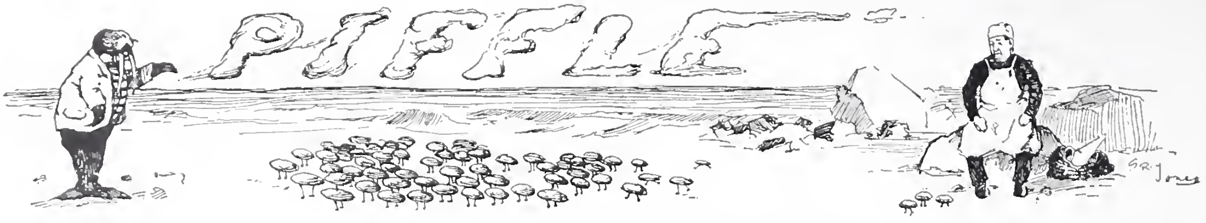
PROF. LODGE has again been lecturing upon the electric theory of matter; this time at the Bedford College for Women, and the substance of the address appears in the *Engineer*. We have only space for a quotation from the concluding paragraph. He tells us that the relation of the electron to matter is a subject of the most intense interest. But it is not to be supposed that the electron is stationary in the atom. The electrons are revolving round each other at tremendous speed, so that the atom is a region of tremendous activity. The electrons are not the least crowded, although there are at least 1,000 of them in the hydrogen atom, 20,000 or 30,000 in the sodium atom, and 100,000 in the atom of mercury or platinum. The fact is we come to an atomic astronomy, and the atom is becoming like a solar system, or like nebulæ, or Saturn's rings, or something of that kind, composed of a number of small particles in a violent state of revolving motion, and occupying very little of the whole space with their actual substance. Taking any family belonging to a sun, that is a solar system, it forms something of the same kind of collection as the electrons in the atom. So when we get in an atom a sort of solar system we begin to question whether there is anything in absolute size at all. It has been suggested that solar systems may be but atoms of a still larger universe. These are questions, however, that are too impossible to answer. But there appears to be no end to the extent of the universe, and all we can say is it is probable that it is infinite in an infinite number of ways.

POTASSIUM CHLORATE AS A POISON.

THE value of potassium chlorate as a curative agent in cases of throat troubles is almost universally known and widely employed, and the chlorate is not usually considered as a dangerous or poisonous substance. The *Lancet*, however, reports a case of poisoning which occurred recently. A boy who was inordinately fond of sweets was given six tabloids of the chlorate, such as are usually sold by the chemist. The intention of the boy's uncle who gave them to him was to cure him of his fondness for sweets. In two hours or so, he gave him six more not thinking they would do any harm, but after eating them the child was taken ill and died. At the inquest the boy's uncle stated that he thought the tabloids to be harmless, as he had himself frequently taken twenty in a day. Medical evidence, however, showed that each tabloid contained about five grains of chlorate, and that an overdose acted powerfully as a gastric irritant, and was calculated to produce death in about two hours. The verdict returned by the jury was one of accidental death from poison unconsciously administered.

GALALITH.

FOR some time past the newspapers have been publishing accounts of the new substance introduced as galalith, and glowing reports are given of its utility in many directions—from making buttons and knife handles to paving streets. Further particulars to hand as to the nature and manufacture of it show it to be a preparation of casein, made into an insoluble "union" by the addition of salts and acids. The substance so produced is dephlegmated and dried, and, finally, by the addition of formaldehyde, galalith is obtained. To produce, for instance, a substance similar to ebony, such as could be used for the manufacture of handles for table knives, dissolved casein is given a dark colour by the addition of soot or lampblack. and by means of a metallic salt (sugar of lead) a slate coloured precipitate is obtained. This is mixed with water, and the thin pap is filled into a cloth stretched upon a frame and allowed to drain. Water being thus got rid of to a great extent, the substance contracts into an uniform, firm and dark mass. This is placed in a solution of formaldehyde, and after drying, a product results which in lustre and colour is said to be equal to ebony. In this way a raw material is produced, which the inventors have protected with numerous patents. One advantage as compared with celluloid is said to be the fact that it does not ignite so easily and is quite odourless. Test trials have been made, and it is found that, even if kept immersed in water for weeks, it does not expand more than the best buffalo horn. Casein is a well-known commercial article, and is extensively employed in various manufacturing processes, and many attempts have also been made to utilise it in the various photographic processes as a substitute for gelatine, but hitherto without much success. It would seem from the above, however, that, omitting the colouring material, a cheap and valuable substitute for it may possibly be found in galalith.



"The time has come, the Walrus said, to talk of many things"

A MAN who stabbed another in the street gave it as an excuse for his well-intentioned but unappreciated action that he was writing a drama in which such an incident was to occur, and he wanted to make it as realistic as possible. The hint should be useful to photographers. Why should not our exhibitions show something more exciting than "The Edge of the Wood"? Why not "The Edge of the Axe"? And have a real axe, a real axer, and a real axee.

* * *

It should be within the scope of practical politics—Beg pardon. My thoughts were elsewhere.

* * *

It should be within the bounds of possibility to secure pictures of a railway collision, a ship foundering at sea, a house on fire, a runaway horse, and so on, from actual incidents, ably brought about by the enterprising photographer.

* * *

How our esteemed editor would chuckle, and order forth the biggest and fattest type, if he had to make such an announcement as this: "We learn that Dr. E. G. Boon has secured the services of Druriolano Supero, the famous Italian brigand, who is at present engaged by Mr. F. H. Evans at the Dudley Gallery. Supero is under contract to assassinate a well-known Italian of picturesque appearance in one of the most charming quarters of Venice, and Dr. Boon hopes to have pictures of the event ready for next year's shows. The corpse will be afterwards hurled into a canal famous for its pictorial possibilities; and we look forward confidently to a fine rendering by Dr. Boon of 'The Reflections of Supero,' showing, as it doubtless will, not only his wobbly reflections in the odoriferous waters of the Venetian by-way, but suggesting also his mental reflections on what he has done and what he will get for doing it."

* * *

I see that a poor photographer who went with three other tourists and five guides (which was more than one apiece) on an excursion into the Spanish Sierra Nevada has met with an exciting adventure. The party was attacked by wolves. Before long two of the guides were half dead (which was equivalent to one quite dead guide), and "the photographer who had lost his head was powerless to offer resistance." What in the world could be expected from a headless photographer?

* * *

One would imagine that even an editor would realise that a knowledge of photography is now so general that impossible and absurd photographic incidents might with advantage be omitted from books and papers. Apparently most editors credit their readers with the intelligence of a clay dog.

* * *

And with some justification, too.

* * *

I am impelled to make these observations after reading a veracious narrative in one of the weakly, or as some have it weekly, papers. The wife of a coiner of enviable notoriety obtained a position as barmaid in the refreshment bar provided for the convenience of the sleuth-hounds of Scotland Yard. (By the way, even the most harmless and muddy-brained detectives are always described as sleuth-hounds. I suppose they like it. But this is an unnecessary digression which has nothing whatever to do with the tale, and serves no purpose except to fill up a few lines of yawning space. And I use the word yawning without prejudice.)

* * *

To resume. The lady had an ulterior motive in taking this situation. One might think it was to work off on the astute but unsuspecting detectives the spurious numismatic productions of her husband's private mint. Nothing of the sort. Her object was to take a "snap shot" of every modern Hawksure, and to supply her husband with a copy for his guidance in dodging his natural enemies whene'er he took his walks abroad. In this laudable object she succeeded; and not only so, but she mightily augmented her slender income as bar-lady by supplying to criminals in general copies of her unique snap shots at five shillings each.

* * *

I can imagine a grubby little wipe-sneak (I think that is the technical term for a purloiner of handkerchiefs) swaggering up to the bar at Scotland Yard, and smacking down his two half-crowns on the counter with a "Now, Missy, let's have the latest!"

* * *

Anyhow, that's the tale, and I hope you believe it as much as I do. Did the writer of the article believe it? If so, his common sense equalled that of a German sausage, and his perspicacity was on a par with that of a stuffed crow.

* * *

Again, another paper prints a story in which the chief incident is the mysterious murder of a gentleman in the grounds of his own house. As usual, there was a thunderstorm at work at the time. Now, the gentleman's brother was an ardent photographer (Heaven help him!) and had a camera at one of the windows to secure photographs of lightning flashes. He was put off his photography for a day or two by his brother's knify end, but when at last he came to develop his plates he found on one of them "a picture of the actual crime. A flash of lightning had struck a picture of the murder upon the plate."

* * *

! ! ! ! ! !

* * *

I really beg your pardon. I did not mean to shock you so. All right now? Thanks.

* * *

"To add verisimilitude to an otherwise bald and unconvincing narrative," the very picture (done in wash by a black-and-white artist) is reproduced, and it shows that by some felicitous foresight the ardent photographer had focussed, not on the sky, but on the exact spot on the lawn where the knifing was done. Further, although the murderer was obligingly facing the window where the camera was, and so had the lightning behind him, his face was brilliantly illuminated; and although his face "was twisted into a demoniacal expression," it was at once recognised by the first member of the force to whom the photograph was shown.

* * *

This sort of thing has become so common (in stories) that I have definitely decided to discontinue murdering during the progress of thunderstorms. I should advise others to do likewise.

* * *

A photographic society has on its winter bill of fare a lecture on "The old masters and how they strike us." This will be followed by a paper on "The Old Dutches and how they nag us." The second is explanatory of the first.

THE WALRUS.

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PHOTOGRAPHY

Edited by R. Child Bayley, F.R.P.S. Published Weekly

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Romney Marsh. A Pictorial Haunt for the Camera.

By Will A. Cadby. Special to "Photography."

The district with which Mr. Cadby deals in this article is comparatively little known, although so near to the Metropolis and within sight of every upchannel steamer. Its pictorial possibilities may be gathered not only from his article, but from his illustrations, which will be found on pages 383 and 386, as well as accompanying the article.

SEVENTY miles from London by rail, and less by road—hidden away in the south-east corner of Kent—is the comparatively little-known district of Romney Marsh. The "Marsh," as it is called by residents, is Ingoldsby's "fifth quarter of the globe," and mention of Ingoldsby naturally suggests smugglers, many stories of whom still flourish with surprising vivacity locally.

Entering the Marsh from the west, the really quaint—alas! how this word has fallen into disrepute—town of Rye on the extreme edge of Sussex is our starting point. If London camera men generally only knew that such an old world spot was within such easy reach they would probably all rush at once to Rye, and there would be a sort of impromptu photographic convention there. A mediæval tower, historic church, famous land gate, and part of the ancient walls, together with old red-roofed and gabled houses, all clustering on an isolated rock, that at one time was surrounded by water, surely presents enough raw material from which photographers of all schools may make pictures.

But my present business is to describe the Marsh, and so we leave Rye behind us; and crossing the River Rother, plunge into that mysterious, flat land, which has such a distinct charm of its own.

Fairfield Church, Romney Marsh, surrounded by water. Service is only held here for a few weeks in the summer.

Dungeness Lighthouse, showing the new lighthouse in course of construction.

The road from Rye to Lydd is a winding one, banked up above the surrounding country to be safe from floods. Green fields, water ways, wind-worn trees, and the famous Romney Marsh bred sheep are the ingredients that compose the characteristic Marsh scenery, differently mixed at every turn of the road. Masses of meadowsweet and graceful rushes vie with each other to be used as foregrounds.

Lydd, that not long ago was an old-fashioned sleepy village, has got into touch with civilisation through the soldiers, and the firing practice we hear reminds us that it has given its name to one of the most modern explosives. Four miles beyond Lydd is Dungeness Lighthouse, and the lover of solitude should not miss a trip to it. A road, which will take us half-way, ends abruptly at a little farm, where bicycles can be left, and flat wooden soles may be procured, without which the remaining two miles over loose beach to the lighthouse would be slow and difficult walking. Undulating beach stretches out in every direction, slightly covered here and there with scanty grasses and gorse bushes. With the exception of an occasional sheep picking up a precarious living and the screaming sea fowls who make their nests here, we have this bit of "country" absolutely to ourselves, until we reach the lighthouse and Lloyd's signalling station, and stand almost within a stone's throw of the great ships outward and homeward bound. It is a most interesting and yet little-visited corner of England. To be honest, I must add that a train runs from Lydd to the lighthouse, but the tourist who walks will be doing considerably more than saving his fare.

New Romney, an old-world village just inland, is next reached, from which a very easy walk will bring us to

ROMNEY MARSH.

Romney Sand, and there the Straits of Dover are before us. Dymchurch is the next point of interest, but unluckily for the lover of old out-of-the-way places, it is already awakening from its long sleep of village life, and some new bungalows have made their appearance, the splendid sands probably being the attraction. Here begins the great sea wall that has been built to protect the low-lying ground from the encroaching ocean. The road to Hythe lies for some miles immediately inside the wall; and with the Marsh on one side and the sea on the other, pictures should not be difficult to discover.

Just before Hythe is reached a road runs inland, and we can retrace our steps to Rye through Appledore, the road following for a considerable part of the journey the course of the old Military Canal that was made in the days when Napoleon's invasion of the country was amongst the probable events. This canal, with its overhanging trees, is full of picturesque bits of scenery, and the photographic cyclist with the seeing eye will find in the small district round which we have journeyed many days' work for his camera.

St. Mary's, Romney Marsh.

The Celestial Photography at Harvard University.

Some account of the Life and Work of a noted lady photographer, Mrs. Fleming, who has been Curator of Astronomical Photographs at the Harvard University Observatory for the last six years.

We have long been familiar with the work of women in the fine arts and in literature, but in the domain of science it must be admitted that there are but few of the gentler sex who have made their mark. This reproach, however—if reproach it be—is being rapidly taken away; and if, in original research, man must ever take the lead, woman is showing herself to be his active helper and coadjutor.

One of the most remarkable instances of assistance rendered to science by a woman is that of Mrs. Fleming, of Harvard University, U.S.A. Although Mrs. Fleming's life work is in America, she is a Scot by birth, parentage, and education. She was born in Dundee in 1857, and is the daughter of Robert and Mary Stevens. Her father owned a large carving and gilding business, and was also deeply interested in photography, being the first to introduce the daguerreotype process into Dundee.

Mrs. Fleming's childhood was passed in her native city, where also she received her early education. She was trained for a school teacher, and for five years taught in a school at Broughty Ferry, near Dundee. In 1877 she married Mr. James O. Fleming, and in December of the

View of Dymchurch from the sea (see above). *By Will A. Cadby.*

following year they went to the United States, arriving in Boston *viâ* New York.

It was in 1879 that Mrs. Fleming went to the Harvard College Observatory. Her knowledge of photography, gained from her father, helped largely to gain her the position, and the work offered good inducements pecuniarily.

At that time, under the direction of Professor Edward C. Pickering, who succeeded Joseph Winlock in 1877, the work of the Observatory was divided between researches in photometry, or light measurement, by which the relative brightness of the stars is determined, and measures of their positions with the meridian circle. Four women assistants besides Mrs. Fleming were then employed. For two years the latter spent only a few hours a day at the Observatory, but in 1881 her position there became permanent.

Although since almost its very discovery the idea of photographing the celestial bodies had been ever present with astronomers, and even so early as 1840 Dr. J. W. Draper, of New York, obtained a few photographs of the moon about an inch in diameter, no one had ever thought of photographing a spectrum. In 1850, Professor G. P. Bond, of Harvard, with the help of Mr. J. A. Whipple, obtained photographic impressions of Vega and Castor. They also obtained upon a daguerreotype plate a picture of the moon. Then in 1872 Sir William Huggins at Tulse Hill and Dr. Draper at New York obtained photographs of the spectra of fixed stars.

Photography of stellar spectra now advanced rapidly, world-wide attention being paid to it by astronomers. In 1882, the untimely death of Dr. Draper cut off a life that was full of scientific promise. In 1885, Mrs. Draper, with the intention of seeing his work continued, and from personal interest in a subject with which she had become thoroughly familiar through long association with her husband in his researches, established at Harvard Observatory a department known as the Henry Draper Memorial, for the study and classification of stellar spectra.

Being supported by a woman, it was also thought fitting to be conducted by women. Miss N. A. Farrar, with Miss L. Winlock and Mrs. Fleming as assistants, was first placed in charge. Upon Miss Farrar's marriage to Mr. Charles Harris, of California, during the following year, Mrs. Fleming was given this position. Three rooms of the main building were then devoted to the work. So rapidly did it progress that at the end of three years twelve assistants were required. The narrow limits were soon out-grown, and, in 1893, a fireproof brick building was constructed for the storage and study of the photographs.

In 1897 the Harvard Corporation appointed Mrs. Fleming curator of astronomical photographs, thereby breaking a rule of nearly two centuries' standing, with regard to placing women in official Harvard positions. They felt that her remarkable success and skill deserved substantial appreciation, and that the university would be a gainer and not a loser by such an appointment. That they were right has been demonstrated by her able management of the memorial work, and fulfilment of the many responsibilities thus entrusted to her. Her duties are threefold—the executive management of the Draper Memorial Department, the oversight of the preparation of all articles for the press, and the reviewing of the proofs and much of the correspondence incidental to the memorial work; also, the examination and classification of all the photographs, which includes the study of the spectra of variable stars. The latter phase of her work embraces the examination of the 5,000 or more photographs taken yearly at the southern station of the observatory at Arequipa, Peru, and returned to Cambridge in the same boxes in which they were forwarded there.

It is to astrophotometry and photography that Harvard Observatory owes its high position among astronomical institutions. During the last three and a half centuries only eighteen new stars have been discovered. Eleven were found during the nineteenth century, ten of them during the last half. Of these six were discovered between the years 1886 and 1899, five of them, faint ones, being found at Harvard by Mrs. Fleming in photographs of stellar spectra, the one remaining only, a member of the constellation Auriga, visually by T. D. Anderson, of Edinburgh. Three others have been found since 1899, and of these Mrs. Fleming found one, Nova Aquilæ, and came near finding another, that of Professor Turner, of Oxford, first seen on March 27th of the present year.

Mrs. Fleming has also made for herself a world-wide reputation by her discoveries of variable stars, that is, stars whose light changes in brightness from time to time. Nearly 700 variables have been discovered at Harvard, nearly 200 of them from their spectra, most of that number being found by Mrs. Fleming, and about 500 by Professor Bailey from examination of clusters.

The task of compiling a catalogue giving a detailed description of the spectra of all the bright stars (those visible to the naked eye) in both the northern and southern hemispheres involved many years of ceaseless labour, but it has been accomplished by Mrs. Fleming and her assistants, and so faithfully that it is everywhere accepted as an authority.

A typical marsh view (see page 381). *By Will A. Cadby.*

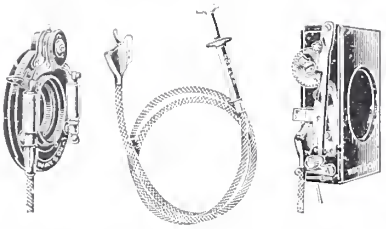
The photographic plates are kept in separate wrappers and stored in oak cases; they are arranged in numerical order, and each compartment is numbered. For further convenience a catalogue of the plates is kept, as of the books in an ordinary library. In fact, the general appearance of the storeroom closely resembles the book-rooms of a public library. It is the largest collection of its kind in the world. All the photographic collections of all other observatories taken together would not equal it. In addition to the stellar plates, the Observatory owns a very large and most interesting assortment of mounted paper photographs and camera pictures of the various buildings connected with its different stations, as well as copies of many stellar photographs.

The work of taking and of finishing the negatives is conducted by Mr. Edward S. King. At Arequipa, Professor Solon I. Bailey, who was instrumental in establishing the South American station, is in charge. He is now passing the second year of his third term there. By far the greater amount of work, however, is carried on in Cambridge, and here a large force of assistants is employed. Twenty-three of these are women, seven being engaged in computations from observations with the meridian circle, under Professor Searle, and the remainder are assistants to Mrs. Fleming.—*Liverpool Daily Post.*

The Antinous Shutter Release.

THE pneumatic shutter release with its indiarubber ball and tube has been so long with us and has been found so generally useful, notwithstanding the tendency of the rubber to perish and other slight inconveniences, that the idea of there being a possible substitute has probably not occurred to many workers.

Messrs. Watson and Sons, of 313, High Holborn, have, however, brought out a novelty that bids fair to supersede it. This they call the Antinous release, and they have appointed Messrs. Houghton and Sons, of 88 and 89, High Holborn, sole agents for it in the United Kingdom.



The contrivance, as may be seen from the illustration, consists of a flexible wire moving freely inside a woven covering. The terminal that is attached to the shutter is of two patterns. For a diaphragm shutter such as the Unicum there is a split metal tube, with an internal projecting wire. The tube which is contracted at the end clips over the pendant tube of the shutter. By bringing together the two discs at the free end of the release exposure is made.

For use with shutters of the roller blind type the terminal has attached to it a hinged flap that lifts up the release in the same way that the old fashioned teat does. The new device occupies less space in the interior of a folding pattern hand camera than the indiarubber ball, and, of course, being of metal, will not perish from atmospheric influences. It must be particularly useful in tropical climates. The price in either pattern is 2s. 6d.

Special U.S. Dial for Bee Exposure Meter.

THE Bee meter as first issued had the diaphragm scale, as in the other Watkins meters, arranged in sequence and stated in terms of their focal values. This is beyond doubt the most generally useful arrangement, but there are many photographers, using Kodak and other cameras in which the diaphragms are marked in terms of the U.S. system, who have found a difficulty in converting the terms from one scale into the other. To assist these workers the Watkins Meter Company, of the Imperial Mills, Hereford, have brought out a special dial graduated in terms of the U.S. system, which may be substituted for the ordinary dial in any Bee meter. A list of the cameras in which the U.S. system of marking is adopted is issued with the instrument, and in the instructions is a table giving the U.S. numbers and the focal values side by side. It may perhaps be convenient to some of our readers if we state here that U.S. 1 is f/4, U.S. 16 is f/16, and U.S. 64 is f/32. The Bee meter may be had fitted with the new dial at the old price, or the dial may be had separately at sixpence, post free seven pence; and for the "Queen Bee" the dial costs one shilling, post free thirteenpence.

The Analysis of Photographic Papers.

EVERY manufacturer of photographic paper, said Dr. Baekeland at the recent chemical congress at Berlin, knows how important it is that the sensitive layer should be evenly distributed over the raw paper by the machine. Amongst the numerous factors upon which this depends are the physical and chemical conditions of the emulsion, such as viscosity and temperature; the quality of the paper, and the temperature and dryness of it; the temperature and hygrometric conditions of the room in which it is coated; and, finally, the particular method of coating the paper.

Owing to the thinness of the film, it is difficult to estimate accurately the quantity of silver contained in a specified area of paper. One method is to detach the film, and then to determine the quantity of silver by ordinary analytical means. Another method is to burn the paper, determine the weight of the ash, and then by subtracting the weight of ash of the raw paper, previously estimated, to calculate the amount of metallic silver.

Dr. Baekeland goes on to describe his own method as follows: "In a vessel of about 500 cubic centimetres capacity I suspend two platinum foil plates about ten centimetres square—the one being an anode and the other a cathode. These are attached by means of platinum wires to an accumulator (or battery) giving about four volts. The vessel is almost filled with five per cent. potassium cyanide solution, and then between the electrodes is placed a given quantity of the paper to be examined. It is important to employ a current of low voltage, otherwise the silver will not be coherently deposited upon the cathode.

"After forty-eight hours action of the electric current, and sometimes less, electrolysis will have been completed, and all the silver from the paper transferred to the negative platinum electrode. This platinum sheet is now carefully removed, washed with distilled water, gently pressed between clean filter paper, and then dried. It is next immersed in nitric acid, which dissolves away all the silver and converts it into silver nitrate, whilst it has no action upon the platinum. The silver nitrate can then be estimated volumetrically. Or the weight of silver can be determined by weighing the electrode before and after electrolysis."

THE CATALOGUE of the third San Francisco Salon is just to hand. It is a beautifully produced and well illustrated volume, and the exhibition, we learn from a Californian reader, has been in every way a great success.

× × × ×

HOPKINS AND WILLIAMS, the well-known chemical manufacturers, of Cross Street, Hatton Garden, announce that their business has been turned into a limited company, under the name of "Hopkins and Williams, Limited." No shares are offered to the public.

× × × ×

A LOAN EXHIBITION, representing as far as possible every known method of making prints, is being organised by the Borough of Tynemouth Photographic Society, and will be held from the 25th to the 28th inst. Particulars can be had from Mr. G. S. Robinson, 99, Linskill Street, North Shields

× × × ×

A NATIONAL PHOTOGRAPHIC EXHIBITION FOR SCOTLAND is being organised by the Scottish Photographic Federation, and the exhibition committee has got the arrangements well under weigh. The Sandeman Free Library at Perth has been selected for the purpose. There will be no charge for wall space, and no awards. The exhibition will be open from the 13th to the 27th of February.

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"ABOUT A LENS" is the title of a pamphlet issued by Messrs. J. H. Dallmeyer, Ltd., of 25, Newman Street, W. The requirements in a first-class modern lens are considered, and the extent to which the stigmatic lens meets them is pointed out. Some useful advice is given on the selection of a lens, together with hints on the treatment of lenses in general. The pamphlet contains some excellent examples of work done with the telephotographic and other lenses. All who contemplate adding to their stock of optical instruments should make a point of writing for a copy.

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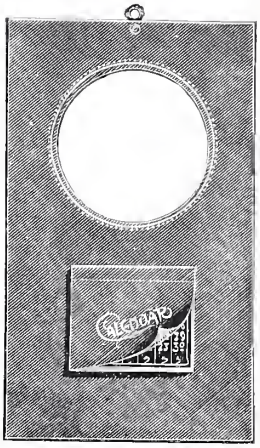

A PRETTY AND USEFUL NOVELTY is the "Photo-calendar," brought out by Messrs. G. Houghton and Sons, of 88-89, High Holborn. As will be seen from the illustration, an opening is provided at the top into which a photograph may be slipped, and a torn-off calendar appears at the bottom. The calendars are stocked in two colours, grey and red, with bevelled edges and white fancy designs round the openings. They are suited equally well for office or home use, and are priced at from 3s. to 7s. 6d., according to size Messrs. Houghton also send us two small but useful price-lists—the one of enlarging and projecting apparatus and lantern materials, and the other of general novelties. In the latter we note a description of an oval and circle cutter that appears to be excellent in design.

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NOTICE TO CORRESPONDENTS
In all publishing matters, letters, orders, etc., should be addressed, Iliffe & Sons Limited, 3, St. Bride Street, London, E.C.

LEADER

The Position of the Lantern Slide.

On another page this week we give the list of awards in the *Photography* Lantern Slide Competition, which we have just had the somewhat onerous task of judging. The competition in point of numbers was as nearly as possible the same as last year, which was the largest so far that we have held. In point of quality we are inclined to think it better than last year, but the comparison at this distance of time is apt to be a little uncertain.

There are one or two matters in connection with lantern-slide work which the annual competition has brought more into our thoughts. One of these is the somewhat anomalous position of the lantern slide in the eyes of many pictorial workers. It is to them a pariah, an outcast, a thing that is artistically out of the question, useful for educational purposes possibly, for entertainment purposes certainly, but as a means of artistic expression—faugh!

Why is this? may well be asked. Why is the print the highest medium the picture-maker can employ, and the lantern-slide not worthy of mention beside it? The reply to our question we believe to be simply, in the first place, that the slide does not lend itself to those tricks and dodges of manipulation by which so many nowadays believe that they are improving their negatives, and, secondly, that the lantern-slide, not having any parallel whatever in the painter's world to which the photographer—whether he admit it or not—goes for his ideals, his mannerisms, and even for the fashion of his methods, is very naturally regarded therefore as lying altogether outside the sphere of art.

The first of these reasons is one which has a sound basis for its existence, and as an excuse may be admitted *pro tem.* The second is quite untenable. It rests on one of the commonest and worst mistakes made by the would-be pictorial photographer—that only those prints which resemble other forms of art are to be regarded seriously as pictorial. Half the monstrosities that figure in our exhibitions are due to it, the other half being due to its exact opposite—the belief that a good photograph is *therefore* a good picture.

Now as a means of artistic expression the lantern-slide, *under suitable circumstances*, is unrivalled. By suitable circumstances, we do not mean illuminated out of all reason, projected to twice life-size on a sheet hung high above the spectator's head, and left upon that screen for about twenty seconds. How often in the reports we receive do we read that so many "slides were put through the lantern," as if it were a sausage machine or some new-fangled army drill? "Put through" is a good enough expression for the thing, but why not abolish the thing? Good slides deserve not only to be put through the lantern; they might well also be shown.

Here is a task for the Linked Ring. Let it make clear to pictorial photographers that it is as much prepared to receive and display lantern-slides which "give evidence of personal artistic feeling and motive" as it is gum prints or glycerine-developed platinotypes. It is our belief that within a couple of years we might count on twenty or thirty such exhibits. Let them be shown by someone with "personal artistic, etc.," in such a way that the mechanical side of their display is suppressed and not emphasised. Let the illumination be suited to each slide, and let it be shown at any rate for a few minutes at a time.

One member of the Linked Ring at least is a believer in the pictorial capabilities of the lantern-slide—Mr. Stieglitz; and Mr. F. H. Evans, if he is not, ought to be. There is a good deal more we had hoped to say on this subject, but we are already at the end of our space and must defer it for a while. In the meantime let us add that we make the suggestion to the Salon authorities in all seriousness. If the reply is made that lantern-slides are not barred at the present moment, we would say that there is an impression—whether baseless or not is not the question—that they would be met by refusal on the general ground that a lantern-slide "is not art." We ask for that impression to be removed.

Spirit of the Times

THE SALON SMOKING CONCERT. On Tuesday evening in last week the Linked Ring entertained its members and friends at a smoking concert in the Dudley Gallery. The function is now a recognised annual event, and the room was well filled with a typical crowd of photographic notabilities. The programme was as choice as could well be imagined, and lasted until a late hour. Links and guests joined in voting by acclamation their thanks to Mr. Craigie, by whose exertions so successful an evening had been spent. Where all was so good it would be invidious to single out the name of any one of those who contributed to the evening's amusement, nor can we altogether support the view of the *Daily Telegraph* that the "guests must have been impressed by the contrast between the character of entertainment which these photographers provided and that of the works they show." Rather would we say that the Salon smoking concert, like many of the pictures on the walls, represented the Links at their best. On such an occasion the photographic lion is to be seen lying down with the photographic lamb, and that not in the sense that one was inside the other, but rather that both, wrapped in the nicotianic mist to which both contributed, shared alike their appreciation of the event and the contents of the Links' syphons. Mr. Craigie and the Ring are to be congratulated upon a most successful evening.

* * *

THE CANALS OF MARS AN ILLUSION.

Most of our readers have heard of the canals of Mars and have seen the drawings, widely differing amongst themselves, which various observers have made of these curious formations. The nature of the greater planets is such that ocular observation is more important than photographic, and in this direction it seems that the eye is once more to manifest its imperfection as an optical instrument. Mr. Maunder has been making experiments which seem to show that the canals are purely an optical illusion. He describes these in *Knowledge* for this month thus: "A class of about twenty boys, from twelve to fourteen years of age, were seated in four or five rows at different distances from a carefully-lighted diagram, which they were told to copy. The diagram was reproduced from some published drawing of Mars, but in nearly every experiment the canals were omitted. The diagram was generally about six inches in diameter, and the distances of the boys from the diagram ranged from fifteen to forty feet, except in two experiments where the range extended up to sixty feet. . . The general result was striking. In several of these experiments nearly all the boys drew 'canals' on their copies, though there were none on the original from which they were copying. And these 'canals' were not placed at random; they were just in the very places where canals are seen in the charts of Schiaparelli and Lowell." The canals, in fact, made their appearance in copies from originals in which no canals figured, and these canals were the result of an optical illusion, which Mr. Maunder discusses but hardly, to our thinking, explains. In any event, if canals can be "seen" in diagrams in which they do not exist, and in the same places, it seems only reasonable to assume the possibility that the canals seen in the telescope are similarly subjective.

* * *

PHOTOGRAPHS OF DICKENS LAND.

It is now a good many years ago that Mr. Snowden Ward told the writer of these lines that his leaderettes and paragraphs could be identified in most cases by the allusions to and quotations from the works of Dickens. They

Evening on the old military canal at Appledore (see page 382). *By Will A. Cadby.*

were in most cases made quite unconsciously, as the result of a fondness for the author who stands for so much to the majority of his countrymen even at the present day, when he has been buried more than thirty years. Never was the interest in Dickens and Dickens land keener than now; and never, we feel sure, would a more hearty greeting be given than to-day to the beautiful volume, "The Real Dickens Land," which Mr. Snowden Ward and his gifted wife have just produced. Dickens, of all writers, had a most extraordinary sentiment of locality. While most are content to house their characters in the most conventional of edifices and to depict the life of a district or county, Dickens fits his scenery to his characters with a most marvellous propriety; and, more than that, goes in most cases, possibly did we but know it in every case, to an actual street and to a real house. The result is that over and over again one can go to an existing building and find the very rooms in which his incidents occur, and find, moreover, that they fit the scene in a way that can be done by no other locality whatever. Mr. and Mrs. Ward selected as many as they could of these places, photographed them, and in the handsome volume just published by Chapman and Hall, Ltd. (10s. nett), have reproduced them with a running narrative of the novelist's life. The "England of Dickens" is fast disappearing. Many even of the localities illustrated in the book have since been altered out of all recognition, and the work has appeared in the nick of time. We are glad it has been done, and glad it is done by Mr. and Mrs. Ward, because it is well done. The book, we are sure, will have a wide popularity and a well-deserved one both here and in the United States. If we might add one more wish it would be that some day in the near future the same authors would give us a further selection from their well-filled negative boxes, which they tell us are by no means exhausted.

The Week's Meetings

THURSDAY, NOVEMBER 5TH.

Glasgow Eastern. Flower Photography. D. Dunlop.
N.W. London. Westminster Abbey E. W. H. Piper.
Hull. Making and Colouring Lantern Slides. F. Woollons.
Chelsea. Lantern Lecture. G. E. Brown.
Ealing. Lantern Night.
Blackburn. A Holiday in Majorca.
Darwen. *Photography* Prize Slides.
Tynemouth. Pictorial Composition. W. Fitzjames White.
Richmond. Lantern Night
Rontgen. Ordinary General Meeting.
South Norwood. Trade Demonstration. W. F. Slater.
Handsworth. Retouching. W. J. Foster, jun.

FRIDAY, NOVEMBER 6TH.

East Liverpool. Intensification. — Ball.
Watford P.U. Lantern Night.
Boro' Poly. Development. G Wynne.
Chiswick. Printing and Toning. J. Mann.
Simpson Memorial Schools. Bromide Papers. Dr. A. T. Lakin.
Weymouth. Majorca. Lantern Lecture.
Plymouth. Improvement of Negatives and Enlarged Negative Making. F. C. Bowtell.
Wimbledon. Slide Making. E. J. Lyon.
Scarborough. Hand Camera Work. T. F. Brodgen.
Croydon Nat. Discussion Night.

SUNDAY, NOVEMBER 8TH.

South London. Wimbledon Excursion.

MONDAY, NOVEMBER 9TH.

Attercliffe. General Meeting.
South London. Printing-out Papers, Toning, etc. H. C. Beckett.
Oxford. The Lumiere Process of Colour Photography. T. K. Grant.
Ilford. Canterbury. E. W. Harvey Piper.
Halifax Ruined Abbeys of Yorkshire. Rev. J. Beanland.
Bradford Colour Photography. F. W. Plews.
Southampton Yorkshire Minsters. C. B. Howdill.
Kingston-on-Thames. Lantern Night.
Widnes. The Rajar Changer. — Cramp. How Lenses are Made. Messrs. Taylor, Taylor, and Hobson
Burton-on-Trent. Kodak Daylight Developing Machine. E. Abrahams.
Handsworth. Council Meeting.
Ulster Amateur. Who Discovered Photography?

TUESDAY, NOVEMBER 10TH.

Goldsmiths' Institute. Open Night.
Thornton Heath. Lantern Lecture. — Ironmonger.
Chiswick. Lantern Slides. F. G. Tryhorn.
Manchester. Annual Exhibition opens.
Blackburn. Retouching R. Wolstenholme.
Glasgow Southern. Coxin. W F Slater.
Monklands The Simplicity of Carbon Printing. G. A. Jack.
Leeds P.S. The Dales and Coast of Yorkshire. G. Bingley.

TUESDAY, NOVEMBER 10TH *(continued)*.

Darlington. Bromide and Gaslight Papers.
Jarrow. Gum-bichromate Process. J. T. H. Carnaby.
Nelson. Lantern Slide Making. F. Whitaker.
Shropshire. *Photography* Prize Slides.
Newcastle-on-Tyne. Development without a Dark Room. N. E. Luboshez.

WEDNESDAY, NOVEMBER 11TH.

Chester. Carbon Printing. S. M. Webster.
Croydon C. Lantern Night.
Leeds C.C. The Message of the Ancient Potters. H. Crowther.
Boro' Poly. The Making of Enlarged Negatives. J. P. W. Goodwin.
Cricklewood. Carbon Printing. T. Illingworth and Co.
G.E.R. Mechanics' Institution. Platinum Printing. H. W. Bennett.
Balham. Some Difficulties and their Treatment. C. Coe.
Hartlepools. Kodoid Plates. Kodak Ltd.
Durham City. Carbon Printing. C. H. Hewitt.
North Middlesex. Working of the Optical Lantern. H. Stuart.
Yeadon. Oxford and Cambridge. G. Bingley.
Catford. Conversazione.
Ashton-under-Lyne. Exposure and Development. T. Glazebrook

THURSDAY, NOVEMBER 12TH.

Glasgow Eastern. Art in Relation to Photography. J. Ramsden.
N.W. London. Ozotype. T. Manly.
Hull. Portraiture. H. Baker.
Batley. Decorative Photography. P. Sheard.
Rodley. One Thousand Miles in Wharfedale. G. Thistlethwaite.
Blackburn. Retouching. R. Wolstenholme.
Darwen. Trade Demonstration. H. Hesketh.
Gateshead. Stereoscopic Photography. R. Burrows.
Richmond. Java, its People and Temples. — Sargent.
Hastings. Lantern Night.
Leigh. The Camera and how to use it. T. Mercer. Plate Exposure and Development. W. Hampson.
South Norwood. Lantern Night. — Nicholls.
Liverpool A. Lecturette Evening. Pictures of Street Life.
Handsworth. Hand Camera Photography. E. F. Wallis.

FRIDAY, NOVEMBER 13TH

Leicester Lit and Phil. English Gothic Architecture. Mrs. Mann and T A. Coysh
Boro' Poly. Enlarging, A. M. Usher
Whitby. The Beginnings of Photography.
Walsall. Lantern Evening. W. T. Comer.
Weymouth. Lantern Night.
Isle of Man. Sepia Platinotype. Rev H. M. Draper.
Bromley. Carbon Process. Autotype Co.
Croydon Nat. Chromatype. J. R. Gotz.

SATURDAY, NOVEMBER 14TH.

Manchester. Annual Exhibition closes.

Societies will have their meetings announced here if the syllabus is sent to us at the beginning of the Session, or from time to time.

"Photography" Lantern Slide Competition Awards.

THE following is a list of the awards in our last slide competition. The entries were numerous but unequally divided amongst the classes. In one or two instances, sets were sent in made up of slides belonging by rights to different classes, and could not have been adjudicated upon even if the quality had been better. We would call the attention of our readers to faults that marred otherwise good slides—absence of or faulty spotting, badly cut masks, and the image not being central but crowded to one side of the slide. These are defects that were taken into account in making the awards, but might easily have been rectified.

All the slides that were unsuccessful in the competition will be posted to the competitors this week, provided stamps for return postage were enclosed. Should any competitor, having sent stamps, not receive his slides by Monday next, he should communicate with this office.

The winning slides have been made up into a set, and are being circulated among the societies. If there are any secretaries who are anxious to borrow them, we shall be glad if they will communicate, giving a list of their vacant dates, with our publishers at Coventry, not addressing the editor in London on this matter. Letters should be addressed: (Lantern Slides.) Messrs. Iliffe and Sons Ltd., Coventry.

AWARDS.

Class I. (home portraiture).—Silver medal, "Scillonian," F. J. Mortimer, 10, Ordnance Row, Portsea; bronze medal, "Wygfair," Mrs. Haydon, the Schools, Shrewsbury; certificate, "Grit," T. H. Greenall, South Cottage, Chorley, Lancs.

Class II. (landscape with or without figures).—Silver medal, "Celt," W. D. Haydon, the Schools, Shrewsbury; bronze medal, "Polywog," G. A. Carruthers, 80, Rock Lane West, Rock Ferry, Cheshire; certificate, "Cricket," W. H. Podmore, Market Place, Warrington.

Class III. (architectural).—Silver medal, "Parson," Rev. E. J. Clark, the Vicarage, Newnham-on-Severn, Gloucestershire; bronze medal, "Pax," J. W. Hodges, 51, West Avenue Road, Walthamstow; certificate, "West Fen," Rev. H. R. Campion, Ely, Cambridgeshire.

Class IV. (breaking waves and sea studies).—Silver medal, "Touchstone," F. J. Mortimer, 10, Ordnance Row, Portsea; bronze medal, "Rix," Alfred Nicholson, 38, Watson Road, Broomhill, Sheffield; certificate, "Sabrina," W. D. Haydon, the Schools, Shrewsbury.

Class V. (Alpine and mountain scenery).—All awards withheld.

Class VI. (flowers and foliage).—Silver medal, "Methyl," W. W. Baker, the Woodstone Pharmacy, Peterborough; bronze medal, "Scrutor," J. Ludlam, 115, Grasmere Street, Leicester; certificate, "Aster," B. H. Bentley, University College, Sheffield.

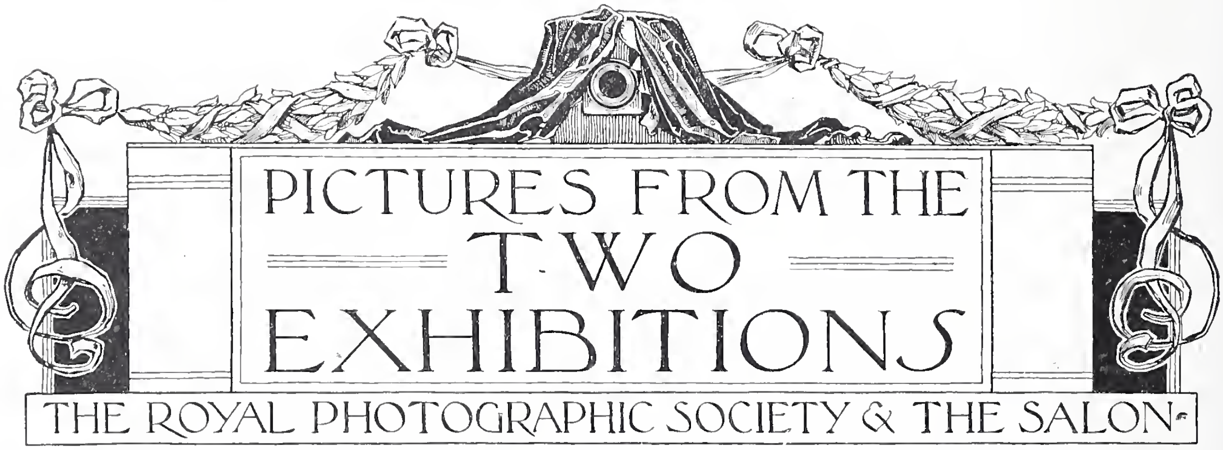
Class VII. (natural history studies).—Silver medal, "Rusticus," F. C. Snell, 8, Guildhall Street, Canterbury; bronze medal, "Souter," W. Mitchell, Meadow Cottage, Selkirk, N.B.; certificate, "Ornies," B. H. Bentley, University College, Sheffield.

Class VIII. (river scenery).—Silver medal, "Ignotus," G. Lamley, 17, Poplar Grove, W.; bronze medal, "Como," Percy B. Wilding, 27, Lower Bank Road, Fulwood, Preston; certificate, "Gauger," M. W. H. Nithsdale, Moorfields, Leek, Staffordshire.

Class IX. (cloud studies).—Silver medal, "Boreas," Thos. Kent, Albert Square, Kirkwall; bronze medal and certificate withheld.

Class X. (lightning, rainbow, hoar frost, or other meteorological subjects).—Silver medal, "Cover," W. H. Podmore, Market Place, Warrington; bronze medal, "Tulip," T. G. Hibbert, 142, Steade Road, Sheffield; certificate, "Aroff," A. Roffery, 586, Coventry Road, Birmingham.

Class XI. (examples of scientific photography).—Silver medal, "Micron," Thos. C. Hughes, 3, Summerhill Street, Newcastle-on-Tyne; bronze medal, "Pulex," Alfred Vigar, 1, Picton Villas, Picton Road, Ramsgate; certificate, "Vibrator," W. W. Baker, the Woodstone Pharmacy, Peterborough.



PICTURES FROM THE TWO EXHIBITIONS

THE ROYAL PHOTOGRAPHIC SOCIETY & THE SALON.

The pictures which, by the courtesy of the exhibitors, we reproduce this week are:

32.—From Darkness unto Dawn. By Arthur Marshall, King Street, Nottingham. (No. 117 R.P.S., 13in. x 10½in., 25s.)

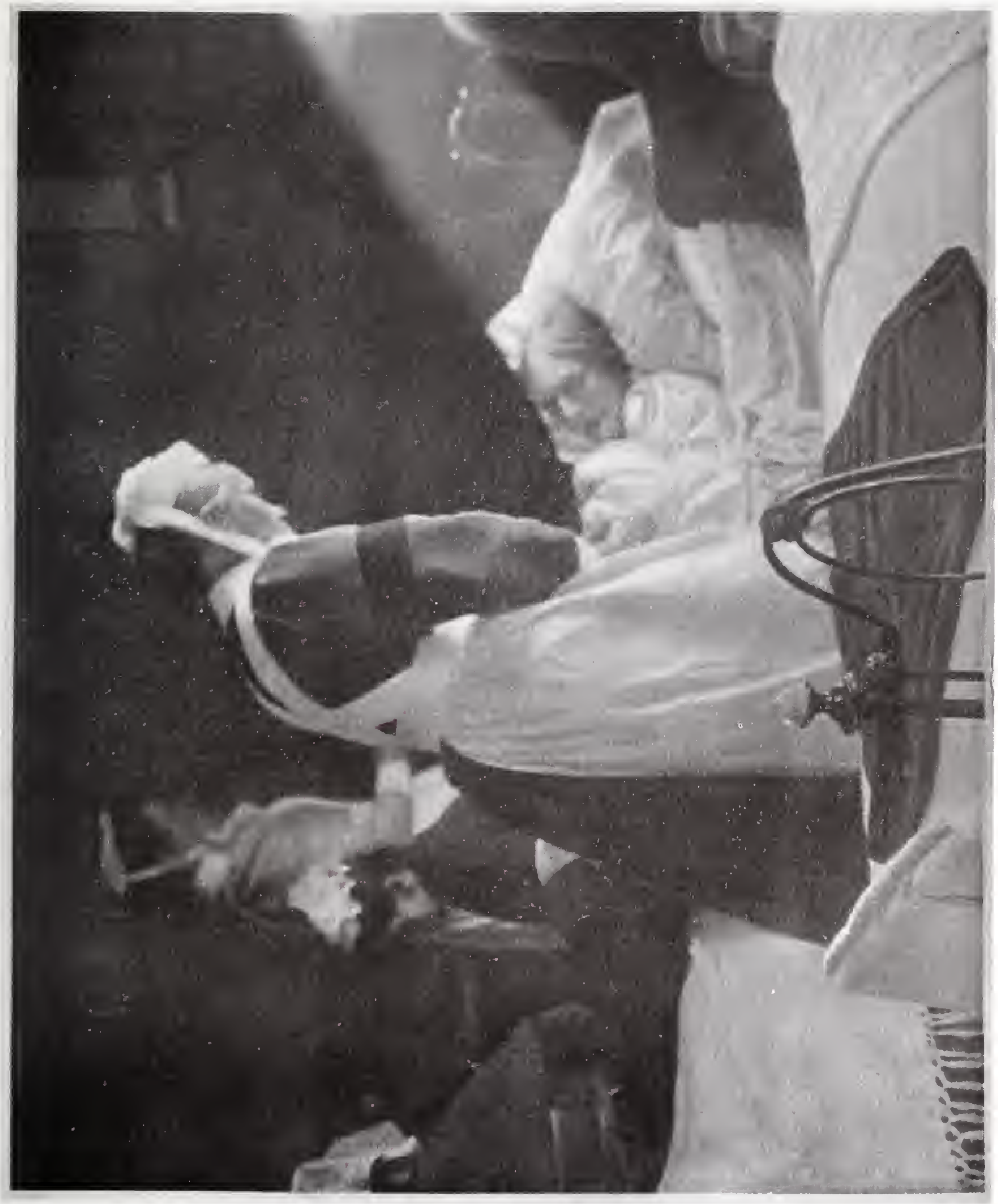
33.—Returning at Eve. By William Clayden, 8, Bound's Place, Mill Bay, Plymouth. (No. 112 R.P.S., 11in. x 7in., 15s.)

34.—Spring Sunshine. By Mrs. Alice M. Dumas, Rosedale, Walton-on-Thames. (No. 125 R.P.S., Invitation Section.)

35.—A Village Cobbler. By Charles F. Grindrod, Wyche Side, Malvern. (No. 70 R.P.S., 15in. x 12½in. £3 3s.)

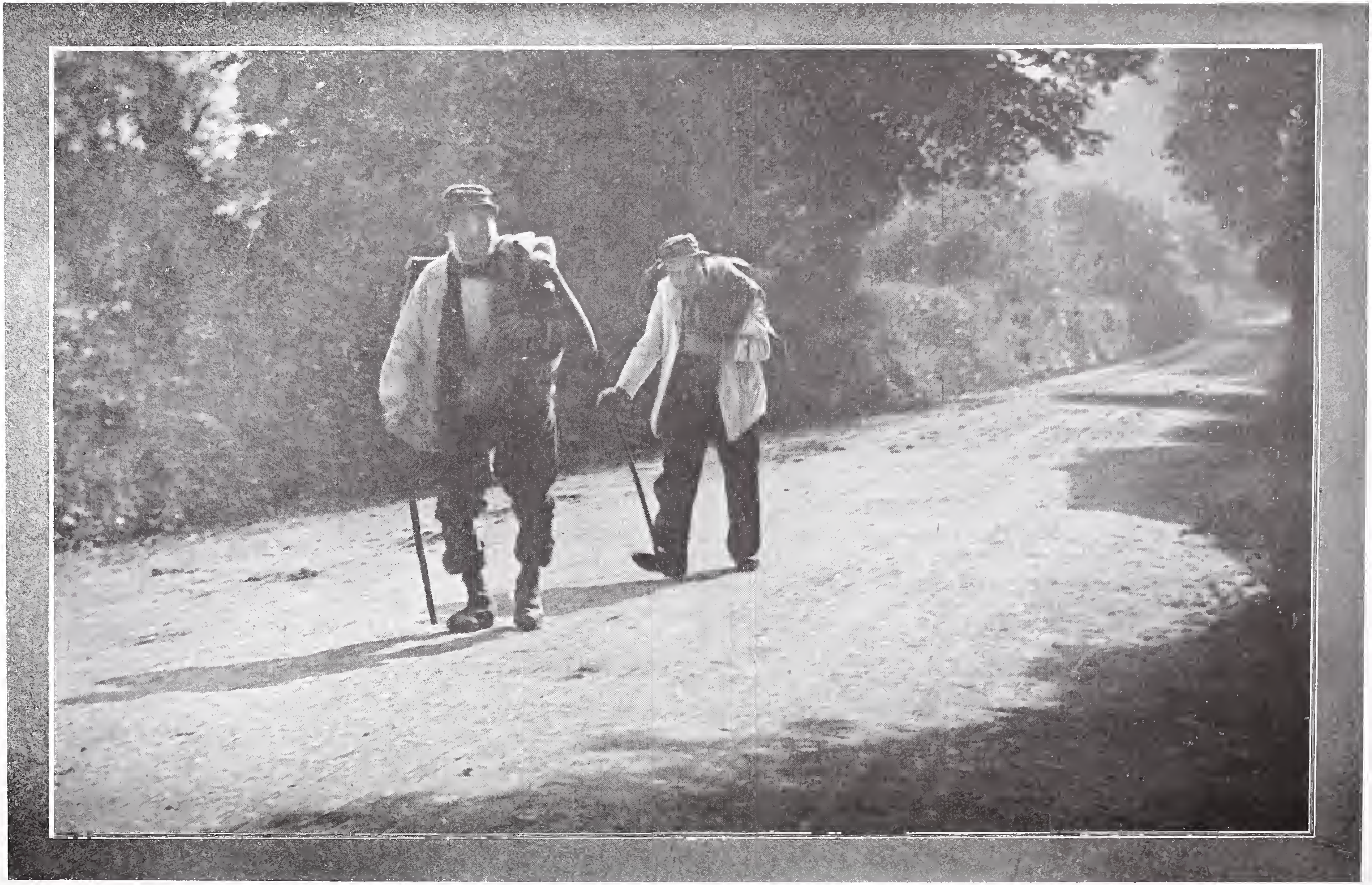
36.—The Last Stand. By J. M. Whitehead, The Studio, Alva. (No. 149 R.P.S., 7¾in. x 6in., 30s.)

We have given the addresses of the exhibitors themselves this week, as the exhibitions will be closing when this reaches our readers. When a price is given it is for the picture framed, as exhibited, the sizes being the dimensions of the print excluding frame and mount.

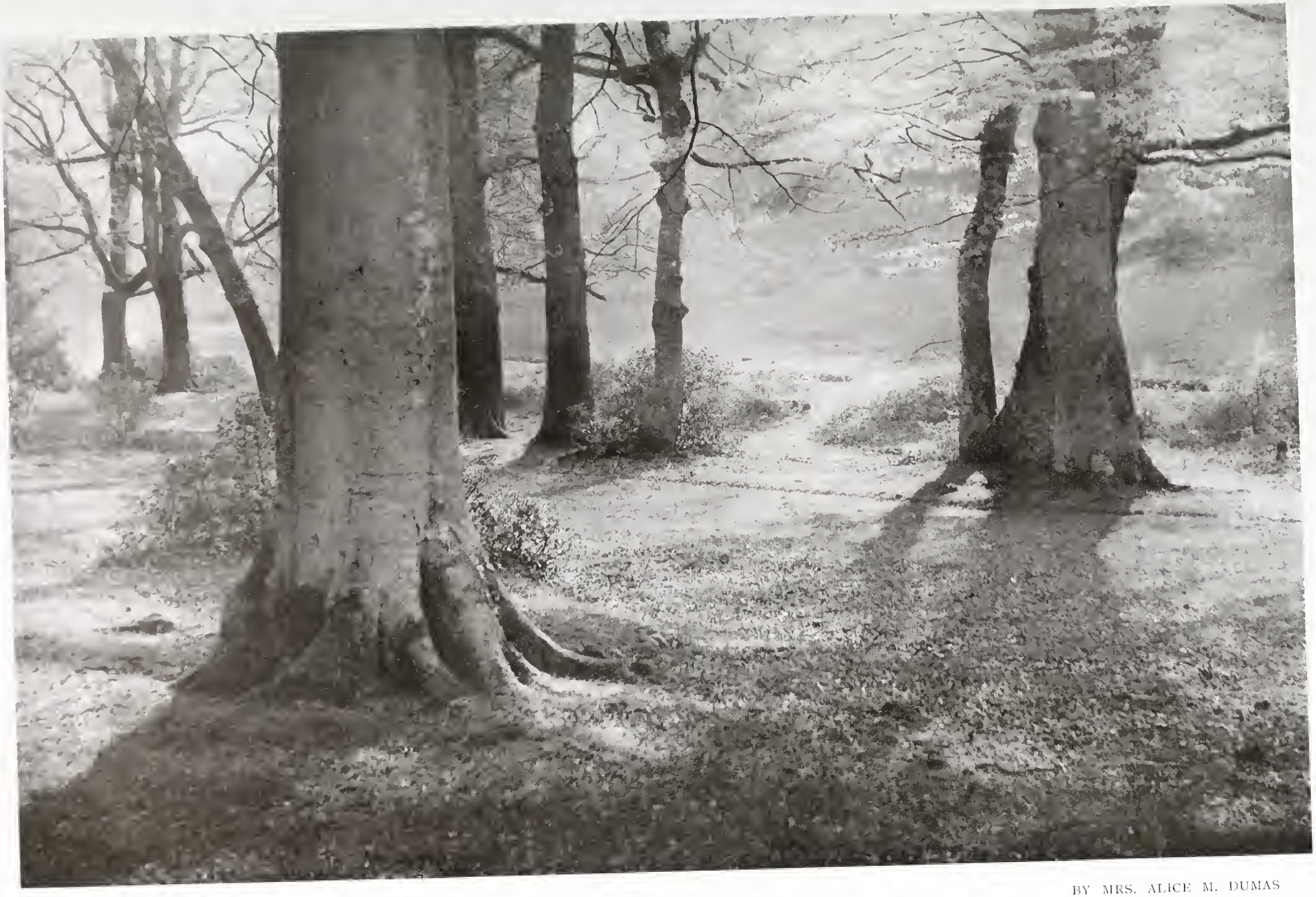


FROM DARKNESS UNTO DAWN.

BY ARTHUR MARSHALL.

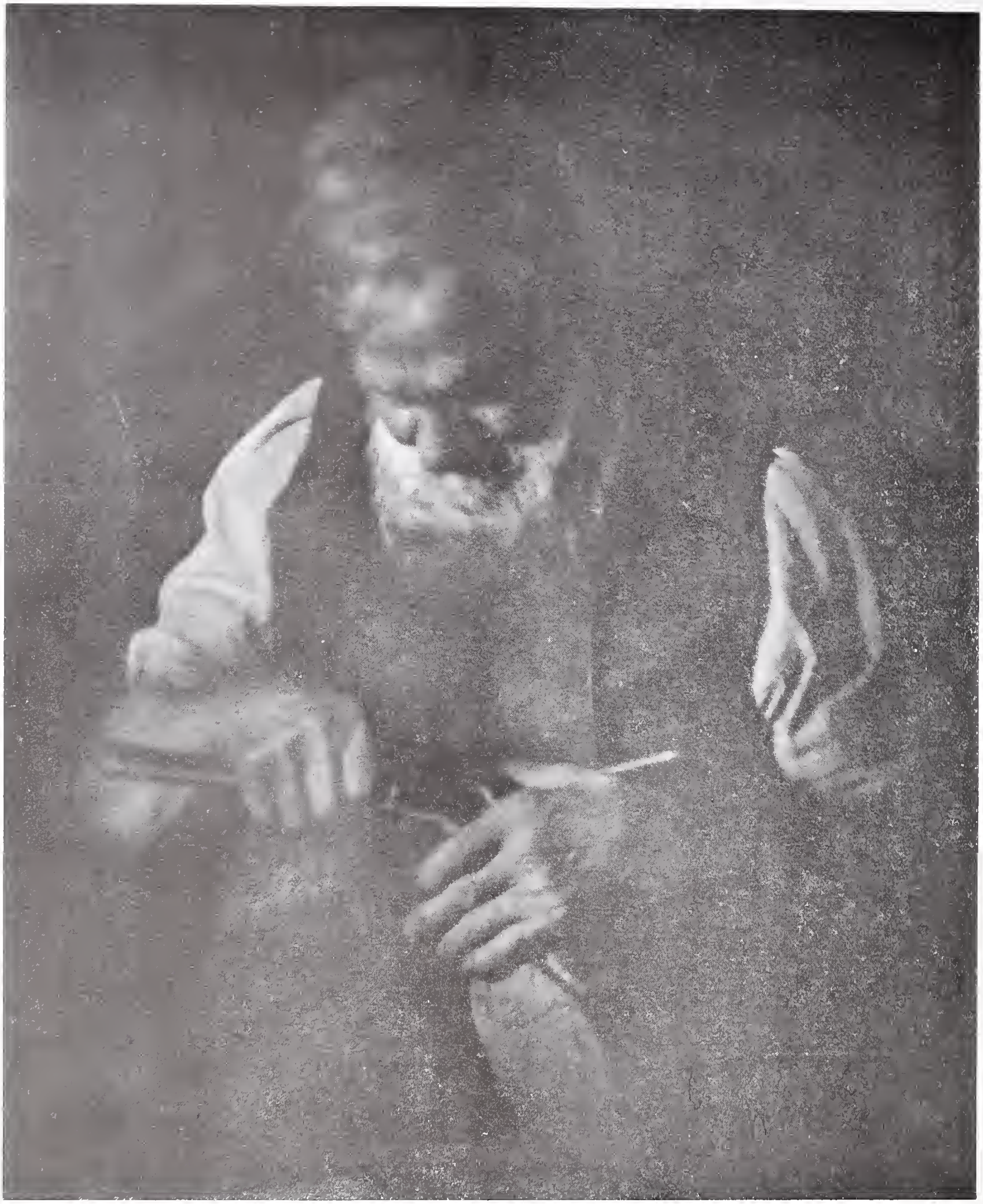


RETURNING AT EVE BY WILLIAM CLAYDEN.



SPRING SUNSHINE

BY MRS. ALICE M. DUMAS



A VILLAGE COBBLER BY CHARLES F. GRINDROD.

THE LAST STAND BY J. M. WHITEHEAD

CORRESPONDENCE.

The Editor is not responsible for the opinions of his correspondents.

SULPHUR TONING BROMIDE PRINTS.

Sir,—At the risk of being called a "formula garbler," may I ask why Mr. Blake Smith converts his silver image on bromide paper into the *iodide* instead of the *bromide* salt for the purpose of reconverting into silver sulphide. Rapid as both processes are, I have found the bromising process to be quicker, less complicated, and to give slightly better results. Yours, etc.,

C. WINTHROPE SOMERVILLE.

MERCURIC IODIDE INTENSIFIER.

Sir,—It may be convenient to many of your readers to know that the ordinary recrystallised sodium sulphite is just as good for preparing Lumière's intensifier as the anhydrous sulphite originally suggested by MM. Lumière, the only difference being the increased quantity required.

I have used this intensifier since it was first published, at first cautiously, but now with complete confidence. The earlier attempts faded in the course of a few months, but since I took the precaution of placing the negatives in the fixing bath after intensification I have not had a single negative fade.

The redevelopment after intensifying *must be thorough* if permanent results are desired. Usually, I place the negative in the developer and leave it to itself for half-an-hour, then wash it and place it in the fixing bath. I have test negatives that have been under observation for nearly three years, and they show no sign of deterioration.

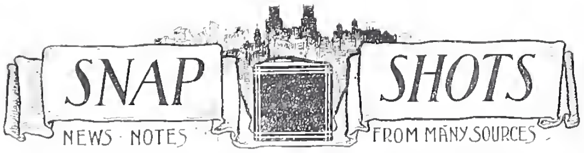
Mercuric iodide is a most convenient intensifier, as the application can be made without the exhaustive washing necessary with other intensifiers; furthermore, it does not alter the original scale of gradation. One fertile cause of fading is the use of old and exhausted solutions; the intensifier when mixed should be kept away from a strong light when not in use.

The formula I have used for the last three years is as follows:

Sodium sulphite (recrystallised) ...	600 grains
Mercuric iodide	30 grains
Water	6 ounces

I am induced to send you this note on preparing the intensifier with the ordinary sulphite from your answer to a correspondent in last week's issue of *Photography*, wherein you give Lumière's original form of "anhydrous" sulphite—the recrystallised is really just as efficient, and nearly everyone has it on the shelf. Yours, etc.,

G. T. HARRIS.



THE WARWICK DRY PLATE COMPANY ask us to remind our readers that all entries for the last competition this season must reach their Warwick offices not later than November 10th.

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A POSTAL CLUB FOR PINHOLE WORKERS formed the subject of a paragraph in our issue last week. The gentleman who got it up signed himself J. Hughes Horwill, of Shawford, Hants. We have written to him, but have received our letter back through the dead letter office. Perhaps he will give us a more satisfactory address.

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AT THE ISLE OF WIGHT Photographic Society's Exhibition, opened on 28th ult., the judges, Col. R. V. Malden and Mr. W. D. Welford, made the following awards: In the open section the gold medal went to W. Clayden; silver medals to F. J. Mortimer, J. Smith, W. R. Lathbury, C. C. Cook, W. H. Bagnal, and F. Parkinson. Bronze medals were awarded to E. W. Provost, F. A. Swaine, C. C. Cook, E. Seymour, R. W. Harvey, and F. J. Mortimer; and certificates were won by W. R. Lathbury, W. H. Lindsay, S. G. Kimber, and D. J. Gadsby. In the members' section the gold medal was awarded to E. A. Swaine, and silver medals to E. A. Swaine and W. L. Bright; bronze medals were awarded to W. L. Bright, A. Millidge, and C. J. Sheath, and certificates to A. Millidge and E. A. Swaine.

MR. C. MARSHALL has been appointed honorary secretary of the Gainsborough Camera Club in the place of Mr. Pickering, resigned.

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STAPLEDON POSTAL PHOTOGRAPHIC CLUB. The list of members for 1904 is now being made up. Applications for membership with specimen prints should be sent to the honorary secretary, Mr. S. Dawe, 12, St. Andrew's Road, Southsea.

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THE EXHIBITION of the Birmingham Photographic Society will be held from Feb. 27th to March 5th. Entries close on Feb. 22nd, and forms can be obtained from the exhibition secretary, Mr. L. Lloyd, Hollies Church Road, Moseley, Birmingham.

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THE EXHIBITION of the Nottingham Camera Club will be held from March 9th to 12th, and the judges will be Messrs. Harold Baker and W. R. Bland. Entry forms will be ready in December, when they can be obtained from Mr. Arthur Black, of 9, Bowers Avenue, Nottingham.

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A PHOTOGRAPHIC EXHIBITION will be held in connection with the Ilford Presbyterian Church Bazaar from the 10th till the 12th of December. Mr. H. W. Bennett will be judge. Entries close on the the 30th inst., and forms can be had from Mr. J. O. Watson, 164, Wellesley Road, Ilford.

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THE WALSALL AMATEUR PHOTOGRAPHIC SOCIETY, now commencing its winter session, is in a thoroughly flourishing condition with a substantial balance at the bank, a membership of 115 (which is so decidedly an increase that larger rooms have had to be taken), and an excellent programme.

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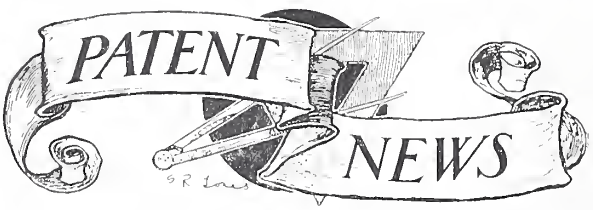
A PHOTOGRAPHIC EXHIBITION will be held at the Dalziel Parish Church bazaar on December 10th, 11th, and 12th. There are to be three open classes, in which Mr. Arch. Cochrane will act as judge, gold, silver, and bronze medals having been placed at his disposal. The entries close on November 28th. Forms can be had from Mr. James Dunlop, of Myrtle Bank, Motherwell, N.B.

× × × ×

AT THE EXHIBITION of photographs held by the Kettering Church Institute, from the 21st to the 23rd ult., the judge, Mr. Henry Cooper, made awards to Messrs. H. Norwood, E. Claypole, P. Smythe, W. Illingworth, W. Bale, R. Lindsay, R. C. Chapman, F. Beale, A. Marshall, S. G. Kimber, A. W. Walburn, A. Smith, E. Thorp, L. Van Vestrant, J. H. Hummel, and Dr. Stokes.

× × × ×

THE EXHIBITION of the Belfast Y.M.C.A. Camera Club was opened by Sir Robert Anderson on the 28th ult. The judges, Messrs. Alfred Werner and R. A. Dawson, made the following awards: Gold medals to Hugh Hill, James Walker, and J. B. Johnson; silver medals to S. Leatham, Dr. Allworthy, D. J. Hogg, D. W. Elliott, W. R. Lathbury, A. Marshall, E. R. Bull, and P. W. Crane; and bronze medals to J. Malcomson, Hugh Cochrane, H. Crawford, J. Malcomson, A. W. Walburn, A. R. Hogg, and J. W. Wade.



The following specifications of patents relating to photography have been published, and copies may be purchased at an uniform price of 8d., at the Patent Office, Sale Branch, 25, Southampton Buildings, London, W.C. The price of the specifications includes postage to any part of the United Kingdom. The additional postage to foreign countries is usually ½d. per specification. Postage stamps must not be sent on payment of any amount exceeding 11d. In ordering the name of the patentee and both the number and year of the patent must be given.

1902.

22,458.—Acres. Cameras and film rolls.

22,776.—Brooks-Watson Daylight Camera Co. Magazine plate-changing apparatus.

1903.

65.—Washing apparatus.

Chemical & Physical News

A weekly summary of those sciences upon which all photographic processes are based.

Specially compiled for Photography by Prof Fergus J McInnes

THE ELECTRIC GLOW LAMP.

IT is well known that the carbon filament in the electric glow lamp gradually diminishes in diameter in consequence of the slow volatilisation of the carbon. According to the *Elektro-technische Rundschau*, a German firm introduces into the glass globe certain chemical compounds with a high boiling point. These, under the influence of the temperature of the lamp, give off vapours which contain carbon, which is deposited on the carbon filament, thus making up to a large extent for the loss referred to above, and keeping the resistance, and also the brightness of the lamp, more uniform throughout its useful life.

NATURAL GAS SUPPLY.

A DISCOVERY of a source of natural gas supply is reported in the *Electrical Engineer*. This occurs near the Sussex village of Heathfield, and is now being turned to account by the Natural Gas Fields of England Co. It was during boring operations for water that the discovery was made, and it is said that its development in the near future may reveal a gas field larger in area than any now known to exist in America. The company has one bore-hole at present to a depth of 400 feet, where there is a pressure of 200 lbs. to the square inch, and a possible output of 15,000,000 cubic feet per day. This is about one-eighth of the total daily sale of gas in the Metropolis. The gas comes from the Kimmeridge clays. Perhaps this gas will revive the old iron industries of Sussex.

BOILING POINT OF METALS.

PROF. KRAFFT has determined the boiling points of certain metals by the use of vessels of quartz heated by an electric furnace. Zinc sublimes below 300° and at 640° distills fairly quickly. The corresponding temperatures for cadmium are 322° and 448°, selenium distills quickly at 380°, and tellurium at 550°, boiling being observed at 535°. Lead boils rapidly, and distills at 1,160°. Tin proved very refractory, no distillation occurring even at 1,100°. At 605° antimony sublimes slowly, and at 775° to 780° distills rapidly. A slight mirror of silver appeared at 1,090°, and rapid vaporisation proceeded at 1,340°. Copper and arsenic boil at too high a temperature to be examined even in vessels of silica. With the former a slight amount of sublimate formed at 1,375°. With the latter extremely little vapour occurred even at 1,375, which is near the point at which silica breaks down.

WHEN DOCTORS DIFFER.

NEW YORK papers have been publishing some statements made by Edison on the physiological effects of the X rays. Mr. Edison states, according to the *Scientific American*, that such is the destruction caused by these rays, that one of his laboratory assistants, Charles Darby, was so seriously injured that it was necessary to amputate his left arm and the fingers of his right hand. The physiological effect noted is the direct result of killing or paralysing the white corpuscles of the blood. Mr. Edison himself has suffered not a little from stomach troubles as a result of experiments made with X rays. Mr. Edison's observations are confirmed by the experiences of two physicians in the radiographic department of the London Hospital. These physicians have fallen victims to the X rays, and have sustained severe injuries. Gloves with lead foil sewn into the back have been employed, but were found to impede the hands in surgical work, and it was necessary to abandon them. Dr. Wilson, one of the two who used to make direct examination with the rays at the hospital, explains that he has not carried out any X ray work for a year and a half, yet his hand showed little sign of healing. Indeed, he seriously doubted whether his finger nails would ever grow properly again. The first symptom of X ray injury is a troublesome inflammation of the hands and insomnia, accompanied by swellings like chilblains. The nails are affected to such an extent that a festering ridge is formed down the centre. After treatment the nail seems partially to perish, and apparently the injury to the matrix impairs future growth. The eyes, too, are apt to suffer from the X rays. Pathologically, the effect of the rays seems to be cumulative. Up to a certain point they are highly beneficial; beyond that, just as highly injurious. At Guy's Hospital, however, announcements have been made which directly refute the experiences of the London Hospital and of Mr. Edison. It is stated that the wonderful cures at Guy's made by the X rays in the treatment of rodent ulcers are attributed by the authorities to the enriching action of the rays on the blood by the increase of phagocytes. The hospital doctors seem to think that Mr. Edison has confused the X rays with ultra-violet rays. About 1,200 persons are treated annually at Guy's, and no case has been reported where injuries have resulted.

PLATINUM.

THE supply of platinum has not been equal to the demand for many years past, and the price has in consequence been a continually increasing one. We can therefore welcome the news which comes from the U.S.A. that platinum, as well as gold, has been found in the mid-channel placer deposits in South Oregon, and it can be mined at the same time as the gold, and with no additional expense. The platinum of these deposits occurs in the old channels in the black sand, and is, in fact, a refractory article, a concentrate carrying platinum in the free metallic state, and gold in a sulphide combination. For years this black sand has been known to exist, but the miners were ignorant of its identity and value, as well as any method of saving it, and have allowed it to be carried off over the dump with the waste water. Through the efforts of the Welsbach Co., of Philadelphia, or their representative, a method has been devised whereby the platinum of these old deposits could be saved. After some months of experiments, the system is proving a success. The platinum of the South Oregon deposits is a black granulated stuff resembling coarse black powder. The small particles of the metal can be easily detected by close scrutiny, as they have a bright metallic lustre. A few platinum nuggets about the size of a coffee bean have been found, but these are rare. As a number of placer mines are preparing to mine platinum next year, it is likely that the production of the metal will become a most important part of the mining industry of Oregon.

OXYGEN FROM THE AIR.

M. G. CLAUDE, of the French Académie des Sciences, has announced a further development of the well-known process of obtaining oxygen from the air by the liquefaction of the latter. The general method of obtaining oxygen by this process is to liquefy the air as a whole and then to re-evaporate it. The nitrogen which is the most volatile gas, escapes first, leaving a liquid containing a richer proportion of oxygen, until the last ten per cent. of the liquid contains approximately ninety-two per cent. of oxygen. M. Claude conceived the possibility of obtaining a gas richly impregnated with oxygen without previously liquefying the whole proportion of the nitrogen present. For this purpose he designed a special apparatus, by which means he was able to draw off the liquid as fast as it was produced. The result of this experiment demonstrated that as much as forty-eight per cent. of the liquid was oxygen.

The British-made Vidil Film—"The Ensign."

IN *Photography* for September 12th we published a description by Hugo Muller of a novelty in roll films, or, rather, of cut films adapted to the roll film method of loading. Mr. Austin Edwards, by an arrangement with the patentees, is supplying these new spools fitted with Ensign films, and Messrs. G. Houghton and Sons, Ltd., of 88-89, High Holborn, are placing them on the market.

In outward appearance the spool differs but little from those to which we have long been accustomed, except that there is a spring catch that prevents it from accidentally unwinding. Fig. 1 shows the spring in action, the end of the covering paper being held down by the metal clip in the centre. The spools are made to fit any camera, the only addition required being a focussing hood let into the back.

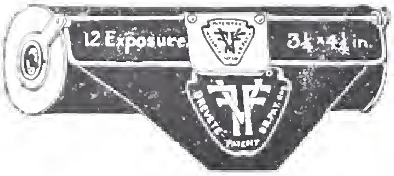


Fig. 1.

The paper backing to which the films are attached consists as usual at each end of two long strips of black paper. The centre part of the roll, however, is of semi-transparent paper upon which are sections of black gelatine carrying the films. The translucent paper acts as a focussing screen, and upon it the image may be seen as clearly as upon ground-glass. The cut films are attached to the black sections, which protect them from the action of light.

The spool being fitted into the camera, an empty spool of the same make is put in position to receive the paper as it is unrolled. It will be seen that the spring catch is a great convenience, acting as a third hand to keep the spool tightly wound while the operator is fitting the loose end of the paper in the receiving spool. When the back of the camera has been fitted on, the spool is unwound in the ordinary manner till a X or the letter A appears at the ruby window. This is a signal that the first focussing screen is in position, when the camera may be erected and the object brought into focus in precisely the same way as though an ordinary field camera carrying plates in dark slides was in use. The spool is then unwound till the figure 1 comes into view, when the first film is in position for exposure.

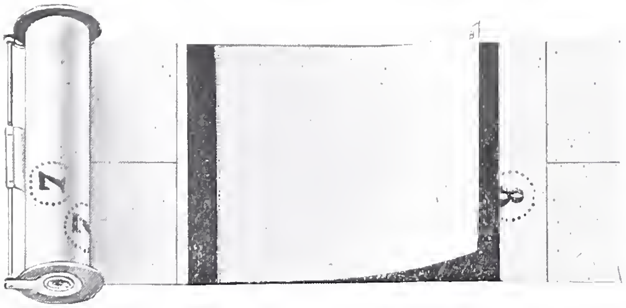


Fig. 2.

Fig. 2 shows the spool partly unwound. The film is seen (loose at one end) in the centre with portions of the focussing screens on each side. The film is left loose at one end for convenience in detaching it, and in consequence the camera should not be extended rapidly when the film is in position for exposure, as the suction by the bellows may warp the film. The better plan is to extend the camera while the focussing section of the paper is in position.

If it is desired to remove an exposed section before the remainder of the films have been exposed, this may be done in the dark room. The receiving spool is taken out, the film detached, the spool again wound up, and returned to its place. In tearing or cutting off the film at the perforated line, care must be taken not to damage the covering paper. When the whole of the exposures have been made, the protecting paper is unwound in the dark room till section No. 12 is brought to view. The end of the paper may be thrown away, the exposed film torn off, and the remaining films will still be protected from light.

Fig. 3 is a camera back fitted with a focussing hood, now kept in stock to suit all makes of cameras. The cross lines in the illustration are printed on each focussing section, and are useful in architectural and other work, where it is necessary to keep lines truly perpendicular.

From what has been said, it will be seen that the new arrangement allows each subject to be focussed upon the screen. It permits of any exposed section being developed while the others remain secure in the camera, and this without losing the advantages of daylight loading. Either of these conveniences is so great that many users of roll film cameras will be anxious to give the Vidil film a trial. We note that the price of a focussing hood for a quarter-plate camera is 4s., and the cost of having it fitted is 3s. 6d. The films are packed in tin cases of triangular section, and the price per spool of twelve exposures is 3s. 6d.

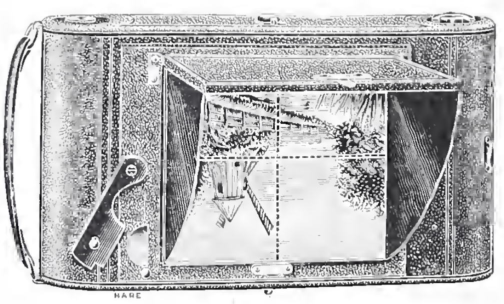


Fig. 3.

A New Brand of Bromide Paper—Illingworth's.

A NEW candidate for favour is the bromide paper which Messrs. T. Illingworth and Co., Ltd., of the Photo Works, Willesden Junction, style their "First Quality Bromide Paper." We have had an opportunity of testing it and have found it equal to all Messrs. Illingworth's productions in point of quality. Higher praise than this is hardly needed. The emulsion is coated on Rives paper of fine grain, and gives rich blacks and pure whites with the greatest ease and with a good range of gradation between.

The instructions issued with each packet have obviously been penned by a worker who possesses a thorough practical knowledge of the methods to be observed, and who lays emphasis upon those that are of the greatest importance.

"It is advisable," states the compiler, "never to expose for less than from ten to fifteen seconds. If the negative is thin and weak, place it further from the light, with a covering on the outside of the printing frame of tissue or mineral paper to weaken the light. This will greatly assist in producing the best possible results." The advice may well be taken to heart by those who are unable to obtain brilliant results from negatives that have been somewhat under-developed. Further on it is stated that "completion of development is indicated by the black parts becoming brilliant, and the best way to observe this is to hold the print against the ruby or yellow light of the lamp and look through the print." Those who have been accustomed to judge by the appearance of the print by reflected light only will do well to examine by transmitted light and note the difference.

Amidol and metol-hydrokinone developers are recommended, and the formulæ given in detail. We found that admirable results were obtained with the developer we commonly use for bromide paper: Amidol, 1 grain; sodium sulphite, 10 grains; water to make one ounce. To obtain the greatest brilliancy in the prints, Messrs. Illingworth recommend an acid fixing bath made by adding one ounce of a solution of four ounces of sodium sulphite and half an ounce of sulphuric acid in twenty ounces of water to two ounces of hypo in twenty ounces of water.

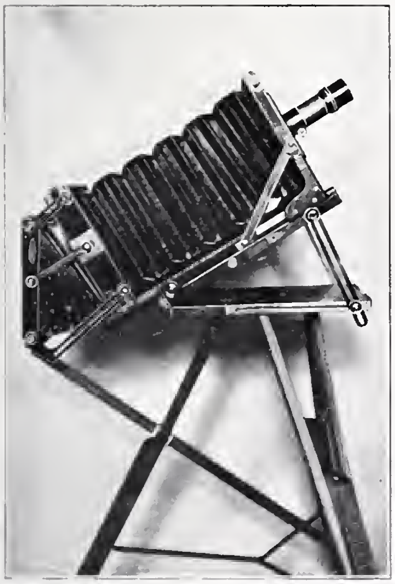
Fallowfield's Motto Mounts for Christmas.

DEALERS and professionals who cater for the demand for Christmas and New Year photographic mounts should lose no time in getting particulars of the latest designs and laying in their stocks. In the thirty-six page illustrated list issued by Jonathan Fallowfield, of 146, Charing Cross Road, there are ample opportunities for making a selection, and the new designs, of which some thirty have been sent on to us, are, if possible, superior to those shown in previous years.

The mounts are made to accommodate all sizes of photographs from "postage stamp" upwards, and the types and designs are equally varied. They are issued in styles scarcely more ornate than the plain bevelled edge mounts used for cabinet and C.D.V. prints, and from that lead onward through various styles of decoration to the two and threefold card, stamped in relief, "blind" gilt or coloured, and for the photographs either to be pasted down or to slip in. The decoration is in conventional and natural designs offering a wide field of choice to the purchaser. It is unnecessary to enter here into a detailed description of the various designs; they will be found illustrated in the price list, and special offers are made to dealers and professionals that will enable them to select those most suitable. When doubts exist as to the suitability of certain numbers, single samples will be sent at dozen rates, and a special offer is made to send selected parcels at a discount below the retail list prices to enable a good variety of designs to be submitted to customers without the necessity of a large stock being kept.

A Camera for Archaeological Work.

A WELL-MADE camera of ordinary construction can be used, of course, for practically every purpose, and may do excellent work in all. When special subjects claim the worker's undivided attention, however, a camera built for the purpose, and incorporating such devices as experience has shown to be useful, will enable the work to be done with greater ease, and will secure, in the long run, results of higher average quality. In archæological work, and more particularly when telephotographic and other long-focus lenses are employed, some form of tilting table is required, and the camera must have a long extension, a swing back, or other means of keeping the plate perpendicular when the lens is directed upward or downward at a considerable angle to the horizon, and great rigidity in all positions.



All the requirements specified above are satisfied in a camera recently made by the Service Photographic Society, of 292, High Holborn, and supplied to the Archæological Department of the Ceylon Government in whole plate size. It was designed with the purpose of giving the best possible results in telephotographic work. The illustration shows the great amount of movement possible with the tilting table, and the corresponding swing obtainable in the back of the camera. This tilt and swing may be had either in the upward or the downward direction by changing the position of the struts, and it will be observed that the strut projecting from the rear of the tripod holds the camera rigidly in the selected position.

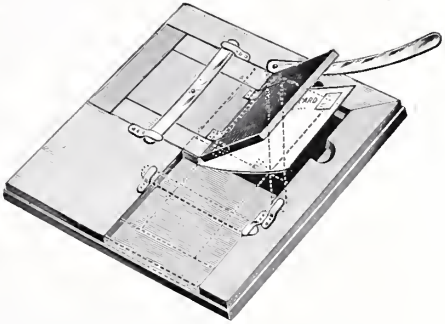
The camera has an extension of twenty-four inches, and may be used with a lens of 5in. focus. It is made of Spanish mahogany, bound with brass to withstand the moist heat of a tropical climate. The instrument supplied to the Ceylon Government was fitted with a telephotographic lens, a pair of lenses for stereoscopic work, and screens, etc., for the Sanger-Shepherd colour process. The price of the camera, exclusive of lenses and dark slides, is £14. Dark slides are £1 10s. each, and the tilting table and tripod is £4 10s.

A CAMERA FOR ARCHÆOLOGICAL WORK.

The Primus Postcard Printing Frame.

THE increasing use of photographic postcards makes some form of printing frame specially adapted to the purpose a necessity. If a half-plate frame is used the negative, mask, and postcard are liable to shift about unless special contrivances are adopted to keep them in position. The device brought out by Messrs. W. Butcher and Sons, of Camera House, Farringdon Avenue, is the most generally useful thing of the sort we have seen.

A quarter-plate negative is placed in the opening just seen in the right hand corner of the illustration and the mask laid over it. The postcard may now be put on top, either along the negative or across it, and will be firmly held and yet may be readily examined in either position, as the hinged back either fits in the place it occupies in the illustration, or may be put in the other side. In either case, only a small portion of the card is left unseen when the back is opened, the frame being of the kind sometimes called "full view."



The construction of the frame is worthy of the design. It is made of walnut, well finished, and has polished and lacquered brass springs—a matter of some importance, as if small fragments of the metal were to be rubbed off and lodge on the prints, specks and markings would be sure to ensue. The price is 1s. 6d., and is very moderate for so well made an article.

Barnet Lantern Transparency Plate.

THE Barnet lantern plate has, amongst other qualities, the merit of being equally well suited for contact printing and for slide making by reduction in the camera. It will give black, brown, and reddish toned images, according to the exposure and method of development adopted. In fact, it may be described as a perfect plate for all-round work. The grain is fine, the colours obtainable are pure and rich, and absolutely transparent lights may be obtained when such are required.

In contact printing, when black tones are required, an exposure of about ten seconds at a distance of twelve inches from an ordinary gas flame is suggested. In our own tests, whether because the negatives we use are somewhat more dense than those Messrs. Elliott and Sons had in mind, or because the gas jet was less brilliant than usual, we found that twenty seconds gave better results. The developer for black tones may be either metol or hydrokinone, or, indeed, a mixture of the two. Formulæ are given in the instructions issued. We found that a plain pyro, sodium sulphite, and sodium carbonate developer gave with these plates a black tone broken with a greenish-brown, suitable for some woodland subjects.

When warm brown tones are wanted, the exposures found necessary for black tones must be increased from twelve to twenty times, and a developer of a different nature must be employed. One formula given contains pyro three grains, sodium sulphite twelve grains, ammonium carbonate six grains, potassium hydrate five grains, and ammonium carbonate four grains to the ounce of water. For still warmer tones approaching red, the longer of the suggested exposures should be given; the suggested developer is hydrokinone four grains, sodium sulphite twenty-two grains, potassium carbonate seven and a half grains, ammonium bromide seven and a half grains, potassium bromide three grains, and ammonium carbonate six grains to the ounce of water.

THE BARNET LANTERN PLATE.

For reductions in the camera from half-plate negatives in bright diffused light, working with the lens at f/16, the same length of exposure is suggested as when making contact prints by gaslight. This will at any rate form a good rough rule.

Messrs. Elliott and Sons suggest that the fixing bath should not be made stronger than five ounces of hypo in twenty ounces of water—a strength certainly great enough for all purposes.

The Barnet lantern plates are sold at one shilling per dozen in lantern size, and other sizes are made to order at the same price as Barnet Ordinary Plates.

A New Method of Printing for Black Images.

A NEW iron printing paper for development with silver nitrate was described by Prof. Namias at the International Union of Photography in Lausanne a few weeks back, and seems to be well worthy of consideration by those who are of an experimental turn of mind. The paper first of all must be sized with arrowroot or starch, and then covered with a solution of water four ounces, ferric chloride three hundred grains, oxalic acid two hundred and seventy grams, and gelatine seventy-five grains. This sensitising solution keeps good for a long time, and is applied with a brush. The paper should be dried rapidly after being sensitised, and used as soon as convenient.

The process depends upon the reduction of ferric chloride to ferrous, the ferrous chloride then giving ferrous oxalate with the oxalic acid present. Ferrous oxalate itself being a "developer," it is easy to understand how on application of a solution of silver nitrate a black picture is obtained.

Prof. Namias recommends an ammoniacal bath, made by adding ammonia to a two per cent. solution of silver nitrate until the silver hydroxide precipitate is redissolved. As a by-product of development, iron hydroxide is formed, and this causes the "whites" of the picture to be yellow. A few minutes' immersion in a five per cent. solution of oxalic acid speedily remedies this; and subsequent fixing in a weak hypo bath or a ten per cent. solution of sodium sulphite completes the operations, leaving us with a black and white print of pleasing appearance.

Needless to say, the image can be toned with gold, a bicarbonate bath answering this purpose best.

Repairing the Blinds of Roller Shutters.

I RECENTLY made the discovery, says M.P. in the *Photo Beacon*, that my roller blind shutter had developed a number of very minute holes, quite sufficient to fog an ordinary plate in a very short space of time. As, perhaps, many may find themselves in the same predicament on making this discovery, I send you herewith my remedy, which, although simple, is thoroughly effective.

In half an ounce of ether, or chloroform, stir up a few drops of asphaltum varnish, such as is used for making black rings round covers to microscopic slides. Then cut up very finely a piece of ordinary bottle rubber about the size of a large cherry stone; slightly larger will do, but do not make the solution really thick. Leave it for several hours until all is dissolved. A shake occasionally will help it. For use, dip an ordinary camel-hair brush into the bottle and quickly lay a coat of it upon the shutter blind. Let the front portion thoroughly dry before rolling the blind, and then do the other portion In this way the whole blind may receive an entirely new coat—or several if necessary—and be made perfectly light-tight once more.

Readers wishing for information upon any specific point in connection with photographic theory or practice are invited to make use of the "query form," which will be found amongst the advertisements. All enquiries must comply with the conditions stated upon the query form; those which do not do so are neither acknowledged nor answered. All enquiries are answered by post. We cannot undertake to make replies in the paper. We print below from time to time a selection from the queries we receive, and our replies.

REMOVING RETOUCHING MEDIUM.

Can I remove the medium and retouching from a negative so that it may be intensified, and how should it be done?

The retouching medium may be removed with turpentine, followed by methylated spirit, and the blacklead will be wiped away at the same time. A soft rag should be dipped in turpentine, and gently rubbed over the face of the negative till the whole of the medium has been removed. After that the turpentine must be washed away with methylated spirit. Finally, the negative must be soaked in changes of water till the spirit has gone. If any of the medium or the turpentine is left the intensifier will work unevenly.

COMBINATION PRINTING IN PLATINUM.

I have been trying to print-in clouds on platinotype paper, but without much success. I find that by the time the clouds are visible on the paper they are much too dark for the landscape after development. Can you give me any help in the matter?

Most platinotype printers acquire by practice the power of judging how far exposure should be carried, as everything that is present in the finished print is visible on it before development, though in a fainter shade. An actinometer is useful to a beginner, however, though it is well to combine its use with examination of the platinotype image.

The simplest form of actinometer is another negative of similar strength to that in use. A strip of gelatino-chloride paper is laid across the densest parts, and the two printing frames are laid side by side. When the gelatino-chloride paper shows the image about as dark as it should be, but without allowance for toning, the platinotype paper will be correctly exposed. There are many forms of actinometers sold for use in the carbon process, any of which may be used in platinotype printing. A simple form can be made by covering a piece of clear glass with various thicknesses of tissue paper, and using it in a printing frame in place of the negative as above. The various densities should be numbered for ready reference.

TRANSPARENCIES FROM WHICH TO MAKE ENLARGED NEGATIVES.

Will you be good enough to tell me how to make the preliminary transparencies from which enlarged negatives may be made, as hitherto my efforts have only ended in failure? The information I want is: What sort of plate should be used, lantern or otherwise, fast or slow? Is an ordinary gas jet a suitable illuminant? How far from the light should the printing be done? What should the exposure be with an average negative? What developer should be used? Is a carbon transparency suitable? What sort of plate is best for the enlarged negative? Is negative paper satisfactory?

In our own practice we use backed contact lantern plates for making the transparency upon, printing by the light of an ordinary gas jet at a distance of four or five feet using any ordinary developer. The exposure must be found by experiment, and may be anything between two and fifty seconds, depending upon the make of plate, strength of gaslight, colour of negative, etc. One experiment will settle the matter if the negative is covered with a card and the exposure is made in sections by drawing the card to one side a little at a time. The first section may receive two seconds and the others four, eight, sixteen, and so on. Carbon transparencies are said by many to be the best for enlarging from; but we consider that the lantern plate is easier to use, and it certainly gives results that cannot be told from those obtained with carbon. Any plate of ordinary make will answer for the enlarged negative. It should not be a rapid plate, as with very sensitive emulsions there is a difficulty in getting good gradation. Negative emulsion paper answers excellently.

STAINS ON POSTCARDS.

What is the cause of the stain on the enclosed postcard? I do not think it is insufficient fixing, as it was kept in the hypo bath for ten minutes, nor is it under-exposure, as others that are well exposed show the same stain. Can it be the developer, or would it be caused by too many being fixed at one time? I put thirty in a dish three inches deep.

The example referred to was not enclosed with the query. If the prints are not well covered with developer stains are very likely to appear; and if they are allowed to stick together in the fixing bath, staining is certain. Unless the dish is a large one, it is probable that in dealing with thirty postcards at one time some of them will stick together.

GREY DEPOSIT ON FILM NEGATIVES.

On examining some film negatives after drying, I find that the backs have streaks and patches of a dull grey on them. The front surface appears to be quite clean. I may add that both sides of the film are coated with gelatine. What is the cause, and how may the marks be removed?

The streaks may be due to a deposit of earthy matter from the washing water. In all probability it is also present on the face of the film, but as that is matt, it will not show the deposit so readily as does the glossy back of the film. It is desirable after washing to lay the film upon a sheet of glass, or other clean smooth surface, and to wipe first one side and then the other with a soft sponge or pad of cotton-wool. The existing streaks may be removed by polishing with the mixture of Globe polish, turpentine, and terebene, suggested by Mr. Baskett.

ECONOMISING WATER IN WASHING PLATES.

I am obliged to do all my photographic washing with rain water, and the supply frequently runs short. What is the most efficient and economical method of working?

If many plates have to be washed at one time they may be placed side by side in one of the many racks to be bought; or if only a few are to be dealt with they may be laid flat in dishes. In either case they should be just covered with water, and allowed to soak for five minutes, when the water is to be changed. Working in this way, the hypo will be removed as effectually as by placing them in running water for an hour or more. Similar treatment should be given to prints, except that a number of them may be placed in one dish to soak. At each change the water should be pressed out of the batch, and the prints placed one by one in another dish of fresh water. As the hypo clings more persistently to the paper than to the negatives, one or two extra changes are desirable.

FLAT PRINTS FOR STORAGE IN A PORTFOLIO.

Most photographs unless they are mounted on card are uneven. I wish to make some on thick paper with white margins to be kept in a portfolio, but I want them quite flat. Please do not tell me to stroke them with a straight edge; I have tried this, and although they are better they have a curl I do not like. If etchings can be made flat, surely photographs can? They are bromide prints.

Etchings and engravings are pressed between glazed boards in the damp state as they come from the press. This cannot be done with bromide prints, as the wet gelatine would stick to the boards. After they are dried, however, they may be put under pressure in a copying press for some hours, when they will be quite flat. If the prints are too large for this treatment the same result may be obtained by running a line of glue round the edges of the print on the back, and then laying it down face upwards on a sheet of glass or a clean drawing-board. As the print dries it contracts and draws itself flat, and if not cut free till perfectly dry it will not afterwards curl up.

CONVERTING A NEGATIVE INTO A POSITIVE.

Will you kindly give me instructions for converting a negative into a glass positive?

The only way in which a negative can be converted into a positive is by bleaching the image in some chemical solution and then backing it up with black varnish or black material. A saturated solution of mercuric chloride slightly acidified with hydrochloric acid is the best for the purpose. After bleaching, the negative must be well washed. Unless the negative is thin and free from fog the positive image will be very indefinite. In any case the results are far from satisfactory when new and deteriorate by keeping.

The simplest way to make a glass positive is to buy a box of transparency plates and to print upon them from the negative in contact in a printing frame and by artificial light. Full particulars for development and general treatment will be found in the box of plates.

IMPERFECT PRINTS BY THE CARBON PROCESS.

Will you please say where I have gone wrong in making the enclosed carbon prints? I have been able to make clean prints from the same negatives both on P.O.P. and on Velox paper showing detail in the deep shadows.

The negatives would appear to be too thin to give satisfactory prints on carbon tissue, and there are decided signs of degradation in the whites even when this is not the case. Presumably ready sensitised tissue was used, in which case the degradation may have been due either to the tissue having deteriorated from long keeping, or to keeping under unsuitable conditions, or to exposure to white light before or after the printing operations. In making negatives for the carbon process they should be developed a little farther than when P.O.P. or any of the gaslight papers are to be printed upon. Those already made may be rendered suitable for the process by intensification.

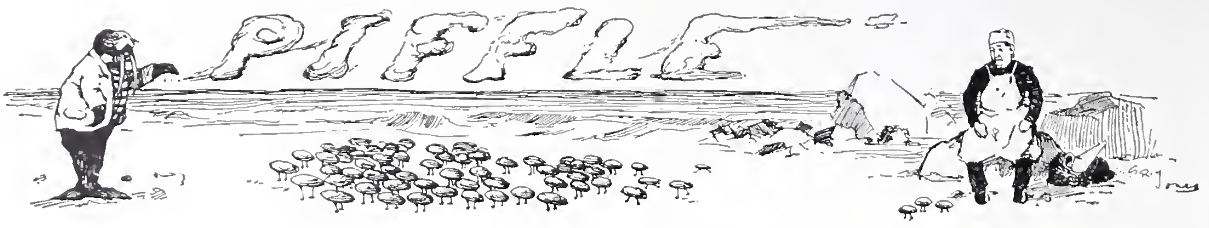
A NEW BATH FOR RED TONES.

Can you give me some further information respecting the paragraph on a new bath for red tones on page 184. I understand that one grain of gold is sufficient for two and a half ounces of solution, and should tone from eight to ten half-plate prints. How is so small a quantity of solution to be used? May it be increased by the addition of water? If the above number of prints were toned would the last of them be thoroughly fixed? Should the prints be fixed before toning?

The prints should be well washed before toning, and the bath should be used at the concentration given. More of it must be mixed up if the amount stated is not sufficient, but not more than a couple of prints should be put in the bath at one time. The proportion of hypo is so arranged that fixing and toning take place simultaneously, fixation being complete at the same time as the toning. The concentration of the bath is one of its characteristic features. One of our staff who has used it successfully several times strongly recommends it, although as a general rule we prefer to employ baths suggested by the makers of the particular paper in use.

NOTICE TO ENQUIRERS

Answered by post: A. H. Ericsson, W. E. Wood, Salonite, H. J., E. M. B., Amidol, Mark Toogood, Orthochromo, W. Mortimer Croft, H. Jerome, Damp, George Keith, Miss McAllister, Australian, C. Jupp, Ego, W. S Hamilton, Stains, Bee Ah, Oakleigh Park, Herbert W. S Knott, Chemist, H. L. Hare, J. Waters, Shareholder, Snow, J. S. Barham, C. H. Froude, George Smith, Burnett Jolly, Norbury, Footlights, Yeovil, Ellis Robinson, S M. C, R P G., Graphos, C. R. O. Belcher, S. M. Hill, Mrs. Greene, G. Vandeleur, H. W., L. O. A., T. Gotch, Ferricyanide, H. Jones, Professional, X. Y. Z., Ashton-under-Lyne, T. S. P., Toned Bromide, J. H Haig, N K Learoyd, An Old Subscriber, Aldershot, K. Y. V., Sodium Sulphide, T. C. (Wimbledon), A. E Older, Subscriber, Lavender Hill, Odoriferous, M. G. O., J. Burge, W. S., E. W. J., C. F. Wright, Sulphur Tone, H. Fox, James C. Wroughton, W. Child.



"*The time has come, the Walrus said, to talk of many things*"

THE other night I was making for home in a smoking compartment occupied by the usual assortment of stolid individuals, who puffed at their pipes while they partook of their evening meal of concentrated falsehood dished up by the "latest editions." At a certain station the door opened and admitted a blast of icy air and a motor acetylene lamp. To the latter was attached a young man, who was followed by yet another young man.

* * *

Taking their seats, the first began to explain to the second in a loud whisper the method of working the lamp, giving practical illustrations. Presently the other passengers began to look about with an air of mild enquiry. Soon the enquiring look lost its mildness and became a glare of speechless indignation. Pipes were puffed more and more furiously. Both windows were opened their widest. Strong men moaned, and buried their noses in their handkerchiefs. Suspicious glances were directed at harmless-looking parcels on the luggage rack.

* * *

Had some villain purchased a condemned Limburger cheese, or some game of great altitude? Were there chemicals about?

* * *

Had the sewage farm sprung a leak.

* * *

For the whole carriage was filled with a nerve-shattering, awe-inspiring, heart-breaking effluvium.

* * *

I recognised it all too well, and directed a reproachful glance at Aladdin up to date.

* * *

"Very sorry, I'm sure," spake he. "Fact is, I've started the wretched gas and I can't shut it off. I'd better light it." The next moment the carriage was ablaze with blinding light, verifying for the first time the pretentious but unjustified inscription on the globe of the carriage lamp, *Post tenebras lux*. Gradually the stench abated, and with a sigh expressive of gratitude for salvation from an unsavoury death, the readers returned to their papers.

* * *

As for me, I could read no more. My thoughts flew back to the time when I purchased a gorgeous enlarging lantern that boasted an acetylene lamp amongst its other glories. The next night I had the lamp gaily burning on the kitchen table and was admiring its bright steady flame. There was, however, a slight hissing sound, which my attentive ear finally located in a rubber tube at the back of the lamp that carried the gas from the reservoir to the supply pipe. Was the hissing inside the tube, or did it portend an escape? That could soon be settled. Unhesitatingly I turned an enquiring nose to the spot.

* * *

Now I stoutly affirm that, although my nose may have been red, it was no more fiery than the winter temperature warranted, and yet the escaping gas instantly ignited. I was never more surprised in my life. It was so sudden, and so entirely unexpected, that there was only one thing that prevented all my whiskers being burnt off.

* * *

I had none.

* * *

Again has the permissibility of Sunday photography been raised. At a harvest festival the elders of the church requested one of their number to take, on the Sunday, a photograph of the decorated pulpit. I can't say what the negative result was, but one positive result was a letter of protest in a local paper. The defence was threefold—(*a*) that the photographer was a member of the congregation, (*b*) that he did the work for nothing, and (*c*) that the photographs were for sale at a bazaar.

* * *

As regards the first point it would seem that if Sunday photography is such a grievous sin a member of a Christian congregation should be the last to practise it. On the second point it may be remarked that if his photographs were only worth nothing he was quite justified in not asking more, but if they were worth anything his conduct qualifies him as a suitable remount for Balaam.

* * *

The third point is one that is pleaded as a justification for all sorts of irregular proceedings. At a bazaar the law of the land regarding lotteries is openly broken, articles are sold for a hundredfold their value, gambling is encouraged, and ladies sell their kisses to all comers (who pay) at so much a smack. So that if the photographs were to be sold at a bazaar that settles the matter, and nothing further need be said.

* * *

There is one class of photographs the production of which should be not only discouraged but prohibited, and the prohibition backed by the severest penalties of the law. A man who can produce them and show them in cold blood to his unoffending fellow-creatures is one "whom it were base flattery to call a coward."

* * *

I refer to pictures, animated or otherwise, of those microscopic monsters of whose very existence our forefathers were blissfully ignorant. It is quite bad enough to know that the air is full of hideous creatures that jeer and gibber at us; that our food is a conglomeration of warring monsters; that our drink is the aquatic playground and battlefield (if a fluid can be ground or field) of an endless variety of diabolically ugly animals; that the tissues of our very bodies are nothing better than one gigantic zoological garden. This, I say, is bad enough. But it is worse to take photographs of these ghastly horrors and show them to us at places of amusement (!) to the consternation and undoing of all peaceful minded men.

* * *

Gentlemen of the micro-kinematoscope, or whatever you call your deadly engine, spare us! Let us drink in comparative peace our crystal draught of struggling microbes; let us eat with what relish we can muster our daily meal of bacilli; let us inhale unknowingly our dose of disease germs.

* * *

Gentlemen, listen! There was a time when I relished a morsel or so of post-prandial Stilton, till one day a boy took a speck or so of dust from the cheese, placed it in a wretched pocket microscope he possessed, and bade me look.

* * *

I looked. I saw. I slew.

* * *

His offence, gentlemen, was mild compared with yours. Yet I slew him.

* * *

Will you not be warned?

THE WALRUS.

SUBSCRIPTIONS.

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PHOTOGRAPHY

Edited by R. Child Bayley, F.R.P.S. Published Weekly

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A Winter's Afternoon. By Wm Mitchell.

Halation and its Cure. By T. Thorne Baker, F.C.S.

With explanatory photographs. Special to "Photography."

This article describes a series of tests just made by Mr. Baker of the new "Red Varnish Bayer" (reviewed in our columns recently), which the Bayer Co. are putting on the market, mainly for backing plates. Incidentally Mr. Baker gives proof of the advantage of using backed plates for all purposes.

THERE is perhaps no such disappointing thing as to spend a day or more in photographing interiors we may never have the opportunity of visiting again, only to find on development that many of them, if not all, have been more or less ruined by the objectionable "halo" which has ruthlessly put in its appearance round the windows or open doorways that formed part of the pictures. Yet this is not by any means an uncommon experience, although it has led many of the more careful class of worker to adopt backed plates not only for interior work but for everything.

I must confess that ready backed plates do not appeal to me very much in practice. If unbacked plates be required at times, it involves keeping two sorts of plates, whilst if backed plates are always to be used, we must pay extra for them. A backing which can be applied easily, and (quite as important) one which can be easily removed, is the ideal medium, and one recently placed on the market by the Bayer Co.—at present termed "Red Varnish Bayer"—I find fulfils the necessary conditions so comfortably and efficaciously that I give in detail a few experiments which, while they show what the red varnish Bayer can do, will also, I trust, be of interest and use to those whom halation has troubled.

HALATION AND ITS CURE.

It will be wise, perhaps, first of all to discuss halation from a theoretical point of view. Though one would hardly think it, the term covers a wide field. M. Wallon emphasised this fact a short time ago when proposing that the research committee of the Société Française de Photographie should take up the study of it for their next three years' task.

The two *chief* causes of halation are (1) reflection from the back of the glass plate, or reflective halation, and (2) dispersion of light from the points where rays meet the film, or irradiation halation.

I have been able to show examples of both kinds in the accompanying illustrations, and from an examination of them it will be readily perceived in what ways they differ. Suppose we take a photograph of the chancel of a church, having in the centre an altar covered with dark drapery, and above it a window, exceedingly bright by contrast. An ordinary plate, if exposed on this subject for the necessary time, will on development show the walls and altar as they should be, but the window with a bright band of diffused light all round it. Now, it is possible that four-fifths of this halation are due to light from the window having been reflected back after once passing through the plate, but the other fifth will be due to the irradiating power of the incident light, which diffuses into the film and acts upon it.

I emphasise this point because the irradiation halation cannot be prevented by any backing whatsoever, nor by other "anti-halation" means. Therefore, in extreme cases, where in order sufficiently to expose the dark portions of the subject the bright lights have been enormously over-exposed, a slight halation immediately round the edges of these lights must not be put down to ineffective action of the backing agent. A special kind of emulsion which would check diffusive action of this kind is yet to be found.

The Bayer varnish which I use is a dark red liquid with an ethereal smell. When a thin layer of it on glass is examined with the spectroscope, only the dim red band well beyond C can be discerned, it being brightest at about B, though the position of maximum absorption, etc., of course, depends on the thickness of the coating.

The best way to coat glass is to hold it in the left hand, level, and to pour a small pool of the varnish on to the centre by means of the other hand. The glass is then tilted from corner to corner until completely covered, when any excess may be poured off back into the bottle. A little practice will enable the operator to do this neatly and efficiently, but it must be done quickly, as the solvent of the varnish soon evaporates. It may be thinned down, by the way, with acetone or ether if considered too thick.

A less "pretty" way is to wipe the varnish over the glass, distributing it with a brush or a pad of cotton wool. It is difficult to avoid streaks this way, and to obtain a homogeneous layer.

When backing plates, they should be held at the edges, and not balanced on the fingers, as in this latter way finger-marks will appear on the film in development. The glass side of the plate being varnished, it will soon be dry, when, of course, the plate may be used forthwith. The plate, after exposure, is held under the tap or rinsed in water for a few seconds, when the backing will either drop

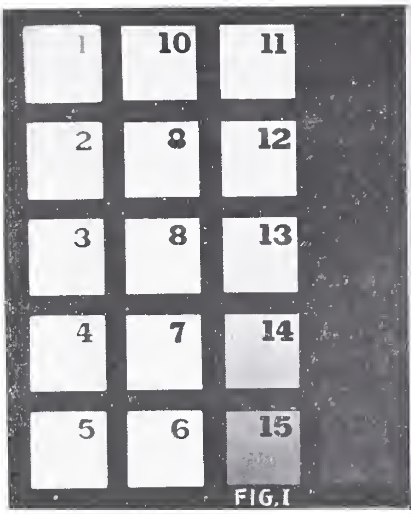


FIG. I

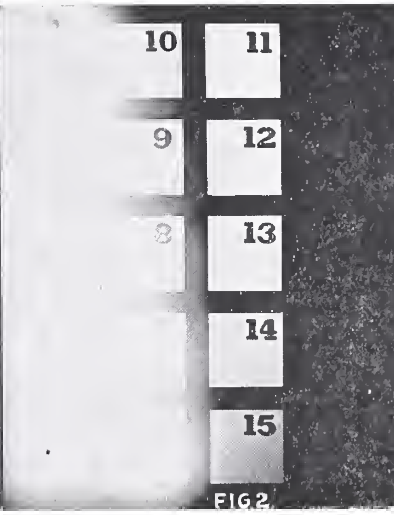


FIG. 2.

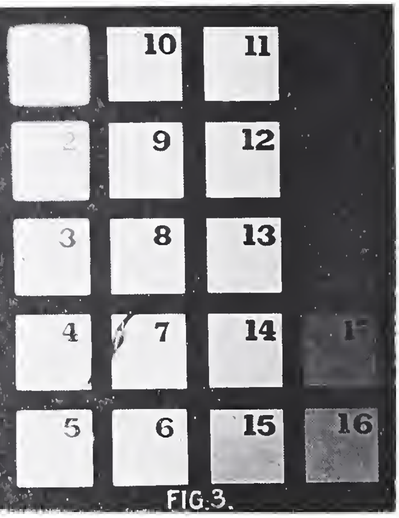


FIG. 3.

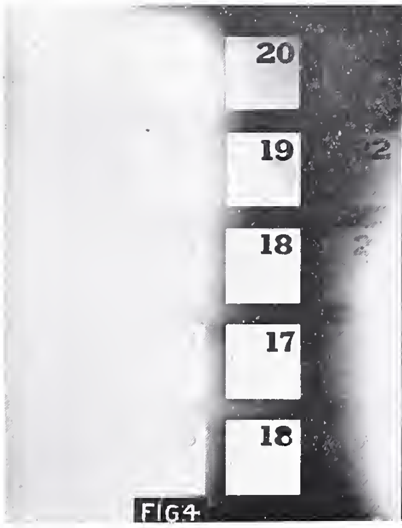


FIG4

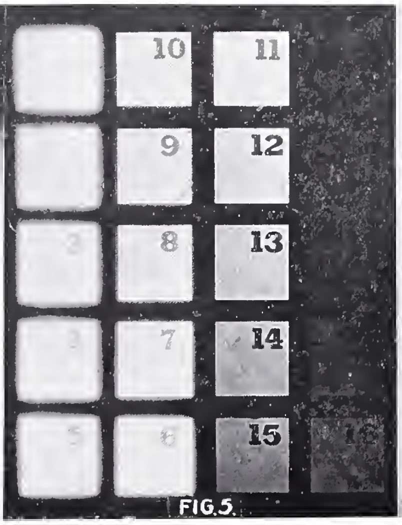


FIG. 5.

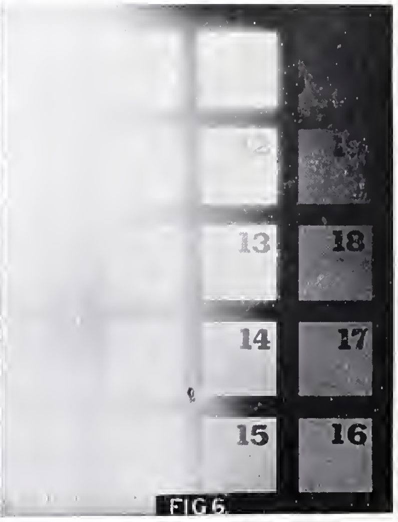


FIG 6.

off like a skin by itself, or may be detached with the finger. In my experience backing cuts off a slight amount of the speed of the plate in a long exposure, as it absorbs a small quantity of blue light that would otherwise give "speed," or, to speak more truly, general fog, by reflection.

To show the actual results, I give six photographs, numbered 1 to 6, 1 and 2, 3 and 4, 5 and 6 being comparative pairs. The test employed was a Chapman-Jones sensitometer, a sheet of white paper being laid on the back of the plate during each exposure to facilitate reflective halation.

Figs. 1 and 2 show two plates exposed for thirty seconds at one foot from a standard candle, and developed exactly alike. No. 1, needless to say, was the backed one. In this case, as in the next, there is no diffusion, because the plate tester was put film to film against the plate, and consequently there was perfect contact between plate and meter. Figs 3 and 4 are two plates, both abnormally over-exposed (150 seconds), but restrained in development by means of acetone sulphite; here the advantage of using the varnish is very visible. In figs. 5 and 6 we have used the plate tester inverted, with the result that the light has diffused freely. But this diffusion, due to non-contact of the "negative" (*i.e.*, the plate tester), and the plate must not be confounded with the irradiation halation apparent in the numbers 1, 2, 3 in fig. 3.

These examples by themselves should suffice to show, not merely the advantage of backing plates, but incidentally also the efficiency of the particular backing used in the experiments. The moral should be clear enough, viz., never use an unbacked plate.

May I add that there is another purpose to which the Red Varnish of the Bayer Co. can be advantageously applied, and that is for dark room illumination. Plain glass coated with it is transformed into an excellent ruby medium, the light transmitted being safe, not only for ordinary plates, but, when due care is used, of course, for orthochromatic as well.

Burning rubbish. *By Wm. Mitchell.*

FORTHCOMING EXHIBITIONS.

SOCIETY.	OPENS.	ENTRIES CLOSE.	SECRETARY.
Sheffield P.S	November 17	November 3	J. W Charlesworth, 1, Joshua Road, Sheffield.
Bishop Auckland P.S.	November 17	November 8	John Welsh, Salisbury Place, Bishop Auckland.
Sunderland P.A.	November 18	November 2	W. E. Kieffer, 1, Stirling Street, Sunderland.
Southsea P.S.	November 18	—	F. J. Mortimer, Pembroke Road, Portsmouth.
Tunstall	November 18	November 7	C. J. Eardsley, High Street, Tunstall, Staffs.
Edinburgh P.S.	November 21	November 7	J. S. McCulloch, W.S., 3a, North David Street, Edinburgh.
Berne International	November 25	—	Prof. Deichselt, 19, Bühlstrasse, Berne.
Glasgow E.A.P.S.	November 28	November 23	A Walker, 80, Garthland Drive, Dennistoun, Glasgow.
Hove P.S.	December 2	November 23	A. R. Sargeant, 55, The Drive, Hove.
Hull P.S.	December 2	—	W. Gilleard, 57, Clumber Street, Hull.
Dalziel Bazaar	December 10	November 28	James Dunlop, Myrtle Bank, Motherwell, N.B.
Ilford Church Bazaar	December 10	November 30	J. O. Watson, 164, Wellesley Road, Ilford.
Southampton P.S.	December 11	December 2	S. G. Kimber, Oakdene, Highfields, Southampton.
Chicago S A P.	December 29	December 15	Society of Amateur Photographers, The Art Institute, Chicago.
Wishaw and District	December 30	December 14	T. Peat, 75, Hill Street, Wishaw.
Liverpool A.P.S. Slides	—	January 30	E. Simnett, Percy Buildings, Eberle Street, Liverpool.
Sefton Park P.S.	January 5	—	H. E. Cnbley, 3 Langdale Road, Liverpool.
North West London P.S.	February 11	January 28	J. S. Fairfoull, 13, Addison Road, Walthamstow.
Scottish National	February 13	—	John B. Maclachlan, *Dundee Courier*, Blairgowrie.
Birmingham P.S.	February 27	February 22	L. Lloyd, Hollies, Church Road, Moseley, Birmingham.
Cripplegate P.S.	February 29	—	G H. Depledge, 17. Hazeldene Road, Goodmayes, Chadwell, Essex
South London P.S.	March 5	February 20	W. C. Marshall, 41, Glendon Road, Lee, S.E.
Brechin P.A.	March 5	February 13	J. Kirk, 1, Infirmary Street, Brechin.
Nottingham C.C.	March 9	—	Arthur Black, 9, Bowers Avenue, Nottingham.
Brentford P.S.	March 15	March 3	F. H. Read, Clifden Road, Brentford.
Northern	March 25	March 11	C. F. Inston, 25, South John Street, Liverpool.
Croydon C.C.	April 6	—	H. M. Bennett, Alipore, Duppas Hill, Croydon.

THE WEEK'S MEETINGS.

THURSDAY, NOVEMBER 12TH.

Glasgow Eastern. Art in Relation to Photography. J. Ramsden.
N.W. London. Ozotype. T. Manly.
Hull. Portraiture. H. Baker.
Batley. Decorative Photography. P. Sheard.
Rodley. One Thousand Miles in Wharfedale. G. Thistlethwaite.
Blackburn. Retouching. R. Wolstenholme.
Darwen. Trade Demonstration. H. Hesketh.
Gateshead. Stereoscopic Photography. R. Burrows.
Richmond. Java, its People and Temples. —Sargent.
Hastings. Lantern Night.
Leigh. The Camera. T. Mercer. Exposure and Development. W Hampson.
South Norwood. Lantern Night. —Nicholls.
Liverpool A. Pictures of Street Life.
Handsworth. Hand Camera Photography. E. F. Wallis.
L. and P. St. Paul's Cathedral. E. W. Harvey Piper.

FRIDAY, NOVEMBER 13TH.

Leicester L. and P. English Gothic Architecture. Mrs. Mann and T. A. Coysh
Boro' Poly. Enlarging A. M. Usher.
Whitby. The Beginner in Photography.
Walsall. Lantern Night. W. T. Comer.
Weymouth. Lantern Night.
Isle of Man. Sepia Platinotype. Rev. H. M. Draper.
Bromley. Carbon Process. Autotype Co.
Croydon Nat. Chromatype. J. R. Gotz.
Wimbledon. Demonstration by the Rotary Photographic Co.

SATURDAY, NOVEMBER 14TH.

Manchester. Annual Exhibition closes.

MONDAY, NOVEMBER 16TH.

South London. Astronomical Photography. C. Thwaites.
Bowes Park. Printing on Rotograph and Rotox Papers. W. A. Sims.
Ilford. Colour Sensitive Plates. E. Human.
Halifax. Flower Photography. W. H. Atkinson.
Bradford. Photogravure. H. Denison.
Southampton. Prehistoric Man A L. Stevenson.
Sunderland Lantern Night
Kingston-on-Thames. The Sinop Process. —Littlejohn.
Catford. Lantern Night.
Walthamstow. Intensification and Reduction. J. Cox.
Stafford. Edinol as a Developer.
Scarborough. *Photography* Prize Slides.
Working Men's College P.A. Printing and Toning P.O.P. W. J. Coates.

TUESDAY, NOVEMBER 17TH

Blairgowrie. At the Convention. J. D. Petrie.
Holmfirth. Lantern Slide Making. G. Bingley.
Goldsmiths' Institute. Press Photography.
Thornton Heath Soirée at the Public Hall.
Hackney. Control in Printing. H. W. Bennett.
Chiswick. Modern P O.P. E R H. Wingfield. Platinotype. T. A. Coysh.
Glasgow Southern. Lecturettes, illustrated.
Hove. The Art of Etching. F. Davey.
Monklands. Majorca. J. M'Govern.
Bedlington. Negative Development. A. B. Gardiner.
Bishop Auckland. Exhibition opens.
Blaydon. Developing Exposed Plates. A. B. Gardiner.
Darlington. Exhibition.
S. Shields. Trade Demonstration. W. F. Slater.
Yeadon. Lantern Night.
Brentford. Lantern Night.
Nelson. One Thousand Miles in Wharfedale. G. Thistlethwaite.
Nottingham. Practical Enlargement.
Keighley. Trade Demonstration
Devonport. Bromide Paper. J. Trouern Trend.
Newcastle-on Tyne. Informal Meeting.
Croydon Nat Lantern Night.
Jersey. Lantern Lecture. W. Day.
Birmingham. Ammonio-nitrate of Silver Method. A. J. Leeson.

WEDNESDAY, NOVEMBER 18TH.

North Middlesex. Bromide Printing. F. A. Haylett.
Everton. Lantern Lecture. N. Stephen.
Croydon C.C. A New Carbon Tissue. Autotype Company.
Leeds. Quaint Pictures and Queer Ideas from Old Books. P. Lund.
Bristol. Slide Making. F. H. Stevens.
Glossop Y.M.C.A. P.O.P. and Self-toning Papers.
Boro' Poly. Lantern Night.
Cricklewood. Hand Camera Photography. E. F. Wallis.
G.E.R. Mech Inst. Lantern Night.
Balham. Lantern Night.
Bishop Auckland Exhibition closes.
Consett. Slide Making. A B. Gardiner.
Croydon Nat. Soiree. Public Hall.
Wimbledon. Chromatype. J. R. Gotz.
Birmingham Tele. Architectural Photography. T. W. Wilks.
Edinburgh. Annual Dinner.

THURSDAY, NOVEMBER 19TH

Glasgow Eastern. Majorca. G. E. Thompson.
N.W London Devonshire Dales. W. Kilbey and G. A. Lawrence.
Hull. Home-made Apparatus. G F. Bristow.
Batley. A Tour round the Mediterranean. Mrs. A. W. Whiteley.
Chelsea. Slide Making. The Secretaries.
Ealing. Lens Making.
Blackburn. Exhibition of Cameras, etc. Thornton-Pickard Co.
Darwen. Slide Making. J. W. Smith.
Tynemouth. Trade Demonstration. W. F. Slater.
Richmond. Continental Scenes. H. Little.
South Norwood. Rotograph Printing. W. A. Sims.
Liverpool A. Warm Tones on Bromide Paper. F. Anyon.
Handsworth. *Photography* Prize Slides.
L. & P. Paper by T. K. Grant.
Pudsey. Development. Toning P.O.P. Bromide Printing.

FRIDAY, NOVEMBER 20TH.

East Liverpool. Printing and Toning.
Boro' Poly. Defects on Negatives.
Chiswick. Gaslight Papers. J. Woodger.
Watford P.U. Visit to Messrs. Audre & Sleigh's Three colour Works.
Walsall. Trade Demonstration. R. Hesketh
Weymouth. Negative Making.
Plymouth. Carbon Printing. W. Clayden.
Handsworth. Kodoid Plates. E. G. Collins.
Ashton-under-Lyne. Chess Match.
West London. Collodio-chloride Printing. J. Brown.
Reading. Lantern Lecture.

SATURDAY. NOVEMBER 21ST.

Hartlepools. Coxin. W. F. Slater.
Simpson Memorial Schools. Majorca.
Edinburgh. Exhibition opens. Constantinople and the Turks. J. Spence.

Societies will have their meetings announced here if the syllabus is sent to us at the beginning of the Session, or from time to time.

QUESTIONS AND REPLIES

Readers wishing for information upon any specific point in connection with photographic theory or practice are invited to make use of the "query form," which will be found amongst the advertisements. All enquiries must comply with the conditions stated upon the query form; those which do not do so are neither acknowledged nor answered. All enquiries are answered by post. We cannot undertake to make replies in the paper. We print below from time to time a selection from the queries we receive, and our replies.

STAINS ON BROMIDE PRINTS.

Can you explain the cause of the stains on the enclosed bromide print and say how they may be removed? The print was developed with amidol, and every possible care taken to avoid chemical contamination. I have tried rubbing the stained part with alcohol, but without effect.

The stains have most probably been caused by the use of an insufficient quantity of developer to cover the print. In such a case the developer taken up by the paper rapidly oxidises, and stains result that are very difficult to remove. It is barely possible that an acid-fixing bath might discharge them. The formula is sodium sulphite $\frac{1}{2}$ ounce and citric acid $\frac{1}{4}$ ounce, dissolved separately in a little water, mixed, and adedd to a pint of freshly-made hypo solution.

FORMALINE IN THE DEVELOPER.

I desire to use a ten per cent. solution of formaline to harden the film of negatives to prevent frilling in the final washing water. Does the hypo dissolve out freely and quickly from a negative treated with formaline after fixing? What would be the effect, if any, of treating the plate with formaline before development?

The effect of hardening the film with formaline is that the hypo does not dissolve out so freely as when formaline has not been used. After the negative has been dried the gelatine becomes still more impervious to water, and intensification or similar chemical treatment is difficult to carry out. If a plate is treated with formaline before development and is well washed it may take a little longer to develop, but if any of the formaline is left in the film it will in combination with the alkali act as an accelerator, and possibly produce fog. The effect is similar to that produced with an overdose of alkali. With modern plates there should be no frilling and no need for a hardening agent. If there is there is something wrong with the developer, probably too much potassium bromide; and, in consequence, an excess of alkali to counteract it has been used.

RAIN SPOTS ON NEGATIVES.

I have unfortunately had some negatives marked with rain spots. Some years ago I saw a method of removing rain spots from negatives, and used it successfully, but have forgotten the particulars. Can you help me?

There is no certain method that we are acquainted with of removing rain spots. By soaking the negative in cold water and rubbing the film gently with a tuft of cotton wool the marks may be removed, but it is very doubtful. All negatives of any value should be coated with celluloid varnish, which is better than most other varnishes, as it is waterproof, and is a protection against rain markings, and also against silver stains, which are even more likely to occur.

THE CRYSTOLEUM PROCESS.

Please say how I can make crystoleums from photographs of my own taking.

In making crystoleums the print should be made on albumenised paper, or developed direct on the glass by the carbon process; gelatino-chloride paper is not suitable. The print, having been fixed and toned, is pasted face downward upon a sheet of glass. In doing so all air bells must be squeegeed out. Usually a concave glass is employed, but for experimental work old negative glasses well cleaned do very well. When the print is thoroughly dry, the paper is rubbed away from the back with fine glass paper till nothing but the film bearing the image is left on the glass. The print is then saturated by gentle heat with paraffin wax or Canada balsam, all superfluous wax or balsam being cleaned off. When the wax or balsam is hard, the eyes, lips, and other fine details are painted on the back of the print with oil colours, and when the colours are dry a sheet of glass is laid over the print, and the two glasses are bound together with strips of paper in the same way that a lantern slide is bound up. Broad masses of colour such as the hair, dress, and background, are painted on the second glass, also in oil colour. As the photograph provides the detail and light and shade, no great amount of manipulative skill is required. When viewed from the front, the flat washes of colour are broken up by the detail in the print.

DEVELOPERS THAT IRRITATE THE SKIN.

I am about to use unal, which I believe is rodinal in powder form. Is it irritating and injurious to the skin? I had my hands in such a state through using metol that I am not likely to forget it, and am in consequence very suspicious of these new developers.

Unal is rodinal in dry form. We have not experienced any trouble from it or from rodinal, nor heard of anything of the sort. It, however, contains caustic soda, and that may cause irritation to people whose skin is abnormally delicate. A trace of vaseline rubbed over the fingers previous to development is said to be a protection.

BANDS OF IRREGULAR DENSITY ON THE NEGATIVE.

I have been a good deal bothered with a thin band across my negatives as illustrated in the enclosed print. They always occur at the lower end of the plate as it is in the camera. All the negatives are not faulty. Can you suggest the cause? I have examined the camera, but failed to find it.

The thin band appears to be due to a fold in the bellows cutting off the light. If the bellows are drawn forward it would disappear, which would account for its intermittent character. A permanent remedy is to attach a strip of elastic to a fold of the bellows near the rear on each side of the camera, and to fix the free ends of these strips to pins or round headed screws driven into the sides of the camera front or to the stays that support the lens panel.

RELATIVE SIZES OF NEAR AND DISTANT OBJECTS.

I should feel much obliged if you would tell me what has caused the faulty proportion between the figure and the trees in the enclosed photograph. The man looks absurdly small, but was not really far down the road. I do not think I raised the front above the sliding panel, or I should have felt obliged to use a smaller aperture than f/8.

The relative sizes of near and distant objects in the picture are settled by the station point of the camera, and the perspective given by a rectilinear lens must be correct if the plate was vertical to the horizon when the exposure was made. The camera being very close to the tree in the immediate foreground, it is naturally very much larger than distant objects. If the trees in the foreground were trimmed off, the man in the distance would not appear so small in comparison with the remaining trees, and if that portion of the photograph were enlarged, or if the scene had been taken with a lens of longer focus in the first instance, the plate would have been filled, and the picture would have been more in accordance with the perspective to which draughtsmen have accustomed us. Neither the raising of the camera front nor any alteration in the diaphragm would have altered the relative sizes of the near and distant objects.

CHROMIUM GREEN GLASS.

Can you state where chromium green glass can be obtained, as it ought to prove useful for dark room illumination?

No doubt there are several places where it can be got, but after making enquiries, the only firm who appear to know anything about it, or who are prepared to supply it, are Messrs. Ramsey and Co., of 78, Farringdon Street, London, E.C.

FLOWER PHOTOGRAPHY.

Will you please say what mistake I have made in taking the enclosed photographs of flowers? I have given long exposures, short exposures, have made the negatives thin and have made them dense, but the results never compare with the beautiful examples you have printed at different times.

The error made appears to be chiefly in the direction of faulty lighting and a desire to crowd strongly contrasting colours together, for in most instances the grouping of the blossoms and leaves is very good, and the plates appear to have been correctly exposed and developed. We should advise that one or two blossoms at the most should be experimented with. From the photographs sent it would seem that the flowers had been placed close to a window, with the idea probably of cutting down the exposure. Flowers, as a rule, require very soft broad lighting, and if they were removed farther away from the window the exposures might have to be prolonged to meet the lowered intensity of the light, but, on the other hand, as the light would be more diffused the contrasts would be less pronounced, and the required exposure would probably be less than would at first be supposed. A verandah makes a capital studio for flower work, by reason of the broad lighting from one side, and when not available the conditions may be arranged for by improvised screens of fabric or paper.

REMOVAL OF SILVER STAINS.

How can I get rid of silver stains on a negative caused by the printing frame getting wet when printing on P.O.P.?

If the silver stains have become darkened by exposure to light and are old it may be impossible to remove them. One of the best remedies is to soak the negative in a combined toning and fixing bath, say: Water, 20 ounces; hypo, 5 ounces; citric acid, 60 grains; lead acetate, 60 grains; ammonium sulphocyanide, 240 grains. Allow the mixture to stand for an hour or so after the salts have been dissolved, decant the clear liquid, add three grains of gold chloride, and allow to ripen for twenty-four hours, when it is ready for use. The negative may have to be soaked for many hours if the stains are very deep, and even then they may not be completely removed. The correct preventive of silver stains is to coat the negative with celluloid varnish.

SENSITISING SILK.

Please give me instructions for sensitising silk or satin for printing in black, also in sepia tint—methods that an amateur would have a fair chance of succeeding with.

There are only two methods by which absolutely black tones can be obtained. The first is with a silver bromide emulsion, which cannot conveniently be applied to silk. The other is by the platinum process, instructions for preparing the salts in which were given in our issue for March 7th this year. The process is somewhat difficult to work, but sensitised silk ready for use can be obtained from the Platinotype Co., and is as easy to work as the paper. Silk ready sensitised with silver can also be obtained from the dealers, or it may be prepared as follows: Pour twenty ounces of boiling water over sixty grains of Iceland moss, and when that is dissolved add one hundred grains of ammonium chloride. When nearly cold filter the solution, and immerse the silk in it for fifteen minutes, and stretch it out to dry under such conditions that it will not adhere to anything. The silk is sensitised by immersion for sixteen minutes in a solution of silver nitrate, twenty grains to the ounce of water, very slightly acidified with nitric acid. It must then be stretched out flat and smooth, and dried in the dark. To keep it flat in the printing frame it should be lightly attached by the edges to a sheet of stout paper or thin card. Printing should be carried a little farther than for paper, and the prints may be toned in any standard gold or platinum bath and fixed in hypo. The platinum bath will give good sepia tones, and if the prints are strong enough, dark browns approaching to black may be obtained.

INTENSIFYING WITH FERROUS-OXALATE.

I have been trying to intensity with mercury and the ferrous oxalate developer, and find it impossible to avoid a grey fog. Is this unavoidable with the process, or have I committed some error?

It is by no means easy to avoid a slight veil caused by the precipitation of lime salts in the washing water by the potassium oxalate, but with care this should be very slight indeed. If the oxalate solution is made up with tap water it should be allowed to stand for some hours and the clear solution decanted. After bleaching the image in the mercury bath the first washings may be with tap water, and if the negative is then allowed to soak for a few minutes in distilled water there will be no perceptible deposit after development. The first one or two rinsings of the intensified plate may with advantage be in water slightly acid, say one part of sulphuric or hydrochloric acid to eighty parts of water. This will remove the iron from the film, and at the same time dissolve any salts that may have formed in the film. The final washings may be in ordinary tap water. Negatives treated in this way and varnished should be quite clear.

THE U.S. AND FOCAL VALUE METHOD OF MARKING STOPS.

What is the meaning of the U.S. system as applied to stops, and how does it compare with f/8, etc.?

In the U.S. system f/4 is marked as 1, f/6 as 2, f/8 as 4, f/11 as 8, f/16 as 16, f/22 as 32, f/32 as 64, and so on.

SPOTS ON PRINTS.

I am constantly troubled with black spots on my prints as in the enclosed example. They do not show during printing, but appear to arise during toning, although I have changed the formula more than once and have bought toning baths that my friends succeed with. Can you assist me?

The spots are due to particles of some material falling upon the print while it is moist. Examined through a magnifying glass there are central nuclei surrounded by fine fern-like markings, and this points to the silver in the paper having been reduced by minute fragments of metal. When specks of developer floating in the dark room fall upon the prints the spots are usually in the shape of comets, as the specks dissolve in the washing water and drift to one side. A prolific cause of such spots is rust in the washing water from corroded fittings to the pipes. A bag made of two or more thicknesses of felt or closely woven flannel tied round the water tap will arrest them.

NOTICE TO ENQUIRERS.

Answered by post: W. B. Marsh, E. Corfield, Mrs. Elise Langton, G. P., Edinol J. J. R., Ortho or Iso, W. F., Pharmacist, Nehemiah Stone, J. Bartlett, Professional, Walthamstow, P. A. S., Copyright, Gerald Smith, Gloucester, Farrington Allen, S. Hipp, W. Langley, Di-amido, H. T. Parsons, G. Hood, Sawbridgworth, G. M. Beardsley, H. J. S. Tremaine, Chemist, Shareholder, I. Huddlestone, B. C. Lang, C. F. P., Gowrie, H C, D. O'Neill, Sulphide, B. W. L., Grateful, H. S., Ravens, croft, Cardiff, T. B., W. S Jones, G. St. L. Oswald, H. Mavrogordato, Yellow Stain, C. Jennings, T. R. Ward, Miss Blind, H. C. Leggatt, E. A. Cordeaux, W. Chappell, R. F. Allardyce, Chas. Thain, Constant Reader, R B., J. W. Swaine, Telegraphist, G. K. Spicer, Miss Mulholland, Reflector, W. Swinnerton, T. S. S., R. E., Hypo-alum, Ralph Greenstreet, D. Maidman, Constant Reader (Chester-le-Street), J C. Cartwright, E. Arthur Venning, Percy Aldgate, L. Illgrave, H. MacDermott, Puzzled, S. C Redman, A. C Batty, J. Humnel, C. E Robotham, E. L. S. J. H. M. Scarth, J. Oliver, C. W. I. Hughes, W. Barlow, J. Platt, G. Riding, W. F., M. F. Black, T. B. Judson, H. C. W., Grateful, P C. Kemp, A. T. East, Apprentice, C. Sheldon, J. C., R. Addington, W. F. L., G. Beattie, H. Hurst, J. R. Richardson, Mrs. E. De Lara Cohen, R. R. Guerney, J. W. Wright. E. V. E N., G. S. Cox, W. L. K., Georgium, A. Mackenzie, T. Jones, F. H. R., Herbert Young, W. E. Cox, A. Brown, C. Marshall, Bromide, H. Atkin, A. Marshall, J. S. Prince, J. Malcolmson, F. H. Thraves.

Holmes v. Langfier. A Copyright Case.

Before Mr. Justice Bigham and a Special Jury, on the 3rd inst. Damages One Farthing.

THIS was an action brought by Mr. C. W. Holmes, a solicitor, against Messrs. Langfier, Ltd., photographers, and George Newnes, Ltd., publishers, to recover damages for an alleged infringement of copyright in the photograph of the plaintiff's baby daughter. The defendants admitted the reproduction, but denied that the plaintiff was the owner of the copyright, and claimed that they had the license of Mrs. Holmes to make the reproduction.

Mr. Scrutton, K.C., and Mr. E. J. MacGillivray appeared for the plaintiff; Mr. Lawson Walton, K.C., and Mr. Lowenthal for Langfier, Ltd.; and Mr. Mears for George Newnes, Ltd.

Mr. Scrutton said in October, 1900, Mrs. Holmes took her daughter, then between two and three years of age, to the Langfier studio to have her photograph taken, and she paid six guineas for two sets. At one of the interviews between Mrs. Holmes and Mr. Langfier the latter asked if he should make an enlargement, and Mrs. Holmes said she could not consent without consulting her husband. In March of this year the plaintiff was surprised to see the photograph reproduced in *Woman's Life*.

In December, 1902, there was a talk among the members of the plaintiff's family of making a Christmas present to a relative, and it was proposed that the plaintiff's father and the little daughter should have their photographs taken together. The defendants, Langfier, Ltd., asserted that at one of the interviews in December, 1902, Mrs. Holmes gave permission for the reproduction of the photograph of her daughter which was taken in 1900 in magazines, periodicals, and illustrated papers. Mr. Scrutton pointed out that if a person went to a photographer and paid in the ordinary way for his portrait, the law did not allow the photographer to make any copies of the negative.

Mr. Justice Bigham: Is there a direct reference to the negative in the statute?

Mr. Scrutton: Yes.

Mr. Justice Bigham: Is the photographer allowed to keep the negative?

Mr. Scrutton: That is a question your Lordship may have to decide. They do keep them.

Mr. Justice Bigham: Suppose he takes a snap hot.

Mr. Scrutton: The point has not been decided in this country. In America, where a lady was snapshotted and used as an advertisement, she tried to stop it. The Court declined, saying the right to snapshot was a right inherent in the constitution, and could not be interefered with.

Mr. Justice Bigham: I thought the case of the snapshotter was an *a fortiori* case.

Mr. Scrutton: I should like to see the case tried in this country. If a distinguished person was taken while bathing, and the snapshot was reproduced, no doubt the Court would be tempted to interfere. (Laughter.) Continuing, the learned counsel said the copyright of a photograph was "in the author, unless the negative was made or executed for or on behalf of any other person for a good or valuable consideration," and any assignment of copyright or license to use a photograph must be given in writing by the proprietor of the copyright or by his agent.

Mr. Justice Bigham: That means if it is not in writing the permission is invalid.

Mr. Scrutton: That has been decided.

Mr. Justice Bigham: Do you contest the plaintiff's right to the copyright?

Mr. Lowenthal: No, my lord.

Mr. Justice Bigham: Then the question seems to be whether Mrs. Holmes gave Langfier, Ltd., permission to use the photograph.

Evidence of a conflicting character having been given by Mrs. Holmes and Mr. Langfier, the jury found that Mrs. Holmes did not give her consent to the photograph being reproduced, and they awarded the plaintiff a farthing damages against each of the defendants.

Mr. Lowenthal applied for judgment for the defendants, Langfier, Ltd., on the ground that they had paid five guineas into Court.

On the 7th inst. his Lordship delivered judgment. He said that the plaintiff's claim appeared to be based partly on statutory and partly on common law rights. As regards the former, the Act of 1862 confined relief to violations of right taking place after registration, and there had been no such violation in this case. As to the violation of common law right, the jury had assessed the damages, and he agreed with them that the action was frivolous. No name had been printed under the reproduction, which had not taken place till the child had grown out of infancy to be between four and five years old. There was no ground for an injunction, the claim for which was, he thought, persisted in to furnish a ground for getting costs. As the defendants had each paid five guineas into Court, they would have the general costs of the action and return of the balance of the ten guineas, and the plaintiff would have the costs of the one issue on which he succeeded.

Pictures from the Two Exhibitions.

THE ROYAL PHOTOGRAPHIC SOCIETY AND THE SALON.

The pictures which, by the courtesy of the exhibitors, we reproduce this week are:

37.—Windless. By W. Thomas, 86, Fawnbrake Avenue, Herne Hill, London, S.E. (R.P.S. Invitation Section, 34in. x 23in., £10 10s.)

38.—Jonquils. By Mrs. Carine Cadby, Platt, Boro' Green, Kent. (No. 112 Salon, 11in. x 5⅜in., £1 1s.)

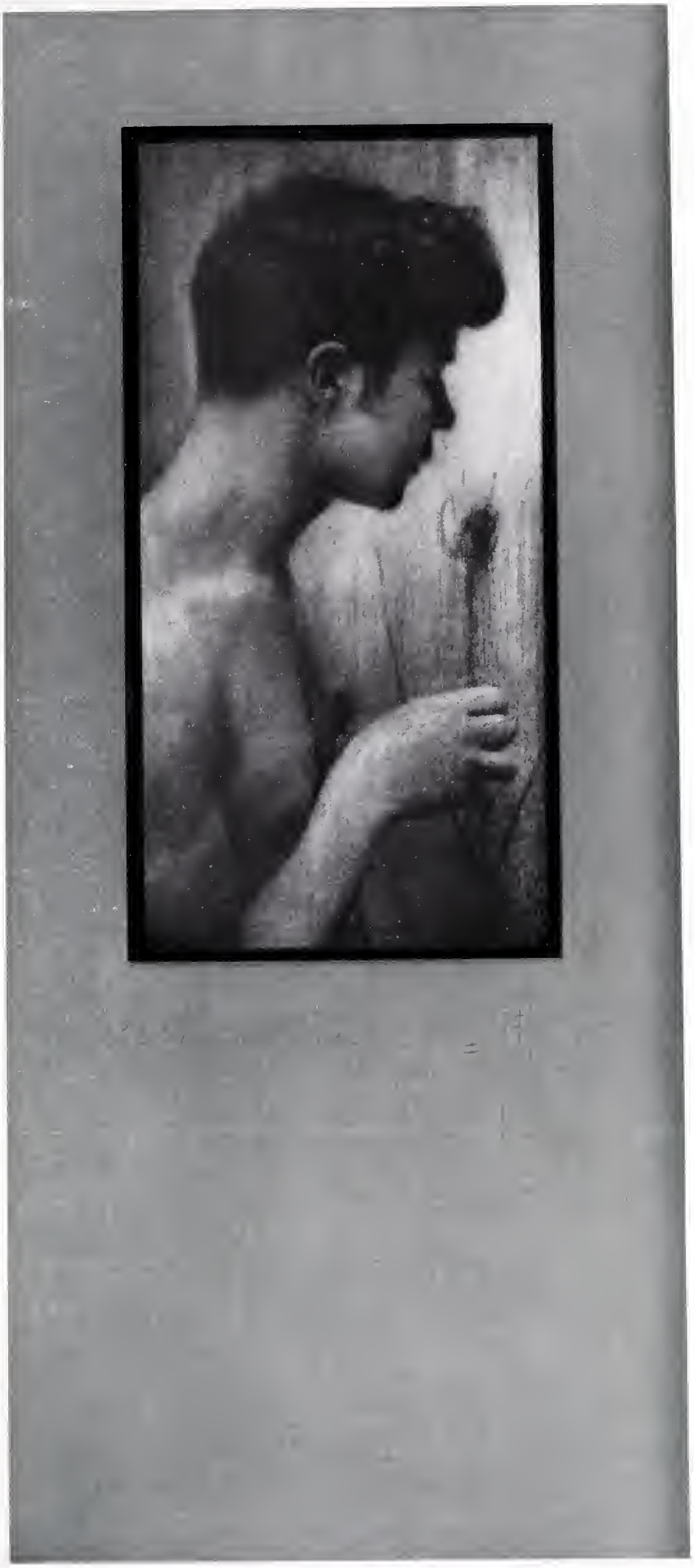
39.—Man with Thistle. By Pierre Dubreuil, 27, Rue d'Angleterre, Lille. (No. 204 Salon.)

40.—Abandoned. By C. F. Inston, 25, South John Street, Liverpool. (No. 227 R.P.S. 50s.)

41.—The Downfall, Peak of Derbyshire. By W. R. Bland, Duffield, Derby. (No. 172 R.P.S., £2 2s.)

We have given the addresses of the exhibitors themselves this week, as the exhibitions are now closed. When a price is given it is for the picture framed, as exhibited, the sizes being the dimensions of the print excluding frame and mount.

WINDLESS. BY W. THOMAS.



MAN WITH THISTLE BY PIERRE DUBREUIL

ABANDONED.

BY C. F. INSTON.

JONQUILS. BY CARINE CADBY

THE DOWNFALL, PEAK OF DERBYSHIRE. BY W. R. BLAND.

PHOTOGRAPHY, No. 783, Vol. XVI.

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NOTICE TO CORRESPONDENTS

All letters, advertisements, etc., must reach the office on Friday morning to ensure being dealt with in the issue for the next week. In cases of great urgency, letters delivered up to the first post on Tuesday morning may be in time to receive attention, but this cannot be guaranteed.

Communications for the Editor should be addressed, The Editor of *Photography*, 3, St. Bride Street, London, E.C.

In all publishing matters, letters, orders, etc , should be addressed, ILIFFE & SONS LIMITED, 3, St. Bride Street, London, E.C.

Advertisement copy and orders, and these only, should be sent to the printing works. They should be addressed ILIFFE & SON LIMITED, Coventry.

LEADER

Of Art and Lantern Slides.

In our leading article last week we pointed out the curious slight which modern pictorial workers in photography passed upon the lantern slide "as a means of pictorial expression." As we commence a series of articles this week from the pen of Mr. G. T. Harris dealing with the technical side of the same subject, it may be as well to recur to the question, and to deal with that side of the argument which considerations of space compelled us to omit.

"You tell us," says a correspondent, "that the lantern slide is unrivalled for pictorial purposes; but that, after all, is only the expression of an opinion, and I beg to differ." Quite so. Our correspondent's view may differ from ours, but our opinion was expressed quite deliberately, and not without a basis of incontrovertible fact.

It is one of the difficulties with which the painter and draughtsman have to contend—that the medium they employ compels them to compress violently the scale of tone in order that it may be included with the limits available. We may make our meaning plainer if we take a concrete example. An artist sits down to paint a landscape in which the highest light is represented by a white-washed cottage upon which the sun is shining, and the deepest shadow by a dark moss-grown oak illuminated by nothing more than the diffused light that filters through the leaves on the interlaced branches overhead. He has to represent the one by the whitest surface he can manage to obtain on his canvas, while preserving texture. This may be a surface as white as that of the cottage itself; but it will only be an exact counterpart when the picture is held in bright sunshine. Clearly, out of the question. His heaviest shadows in like manner will be, within reason, the deepest tone he can get on his canvas. This, too, may be an exact counterpart of the mossy trunk when the picture is regarded in the deepest shadow of the grove. Also out of the question. The picture, then, can only be an exact replica when its highest lights are seen in sunshine, and its darkest parts in deep shadow. Moreover, this is assuming that the canvas allows of a range of tones and surfaces usually quite impracticable in actual work.

What, then, does the painter do? He lessens the differences between each of his tones to such an extent that he can secure on his canvas a relationship between them proportional to that in his actual subject; in other words, he compresses greatly his scale of gradation. The general superiority of oil to water colour is largely due to the fact that the former, by reason of the greater variations possible in its surface, does not necessitate so much compression.

The limitations of the photographer on paper are similar to those of the painter. Nature, fortunately, has put at his disposal means by which the scale may be compressed or extended at will, with absolute accuracy and the greatest ease. But he is none the less limited.

The moment he goes from the print to the lantern slide he finds that his limits have suddenly widened; and though there may still be need for compression, it is by no means so marked. For his highest lights he may now have the whitest surface possible, the lantern screen, illuminated by a powerful light—a light far more powerful than is ever used by which to examine prints. For his deepest shadows he may have the same surface, but unilluminated in any way, save by what stray light is reflected from the sides of the room itself. He will not use the very extremes we have named for other reasons; but he may go near enough to them for his scale of tones to be extended far beyond that possible in a paper print.

There is something in the very isolation of the lantern picture which should not be wasted. It is seen without accessories of mount or frame or border; if properly shown, little but the picture is visible. Certainly, there are not above and below and on both sides other pictures competing with it and clamouring for attention. But we hope we have said enough to justify our appreciation of the good slide well exhibited as the highest of all the means of pictorial expression by photography.

Spirit of the Times

HOLMES *v.* LANGFIER. The case of Holmes *v.* Langfier, Ltd., and George Newnes, Ltd., which was heard last week before Mr. Justice Bigham, although described by one of the daily papers as an important copyright decision, was nothing of the sort. It is not without its interest to photographers, however.

from the way in which the jury regarded the question of damages. Messrs. Langfier photographed Mr. Holmes's baby daughter, and subsequently supplied Messrs. Newnes with a copy, which was reproduced in *Woman's Life*. Mr. Holmes's right to the copyright of the photograph was not disputed, the questions being put to the jury whether Mrs. Holmes gave her consent to the reproduction of the photograph or not and, if not, the damages. The jury found that Mrs. Holmes did not give her consent, but awarded one farthing only against each of the defendants. We are not for the moment concerned with the rights and wrongs of this particular case. Messrs. Langfier would be the last, we are sure, to facilitate the reproduction of a photograph which was not theirs to permit. It is rather the general aspect of the case to which we would refer. "The right of privacy," of which we have heard so much from America, it is clear did not appeal to the jury in the High Court, since they would appear to have taken actual pecuniary damage and that only into consideration. In this they seem to have been guided by the learned judge, who said in his summing up that the plaintiff had suffered no pecuniary loss, but they must assume for the purpose of this case that a right which was vested in him had been violated, and for the violation of that right he was entitled to damages. The question of the amount of damages was for the jury, but he thought they would be wise if they gave "very, very moderate damages." And they did.

* * *

A NATIONAL SCOTTISH EXHIBITION.

There seems to be every probability that the exhibition which is being promoted by the Scottish Photographic Federation, to be held in Perth next February, will mark an epoch in photography in Scotland. It stands out from other exhibitions by reason that it is distinctly national. No one would question the fact that Scotland has produced many who stand at the top of the list of pictorial workers in photography. We need only mention Mr. Craig Allen, Mr. Crooke, and Mr. Cochrane as examples. This exhibition, we understand, is to be open to all photographic workers resident in Scotland and to all Scottish men living in any part of the world—and in what part of the world is a Scotchman not to be found? We are glad to note that there are to be no awards. With the exception of the Royal Photographic Society's annual exhibition, this has become a recognised thing with the best exhibitions in the world; and for our part we should be glad to see the Royal fall in line with the others in this respect. The Federation is to be congratulated on having taken the right course, and we trust will have its reward in an exhibition which shall justify the reputation of Scotland in pictorial photography.

* * *

PENCIL OR CAMERA ?

There is a very interesting article in last week's *T.P.'s Weekly*, in which "John-o'-London" puts forward, in a powerful manner, the claims of a pencil and sketch book over the camera as a companion on a pedestrian or other tour. His "respectful proposition," in his own words, is "that the sketch book ought to be preferred by thousands who now plant their cameras in field and highway." Why? He tells us in the first place that he "cannot see the charm of photography—*considered as a means of recording one's intimate pedestrian joys and communings with nature.*" The photographer, he adds, becomes so enamoured of his art that he practises it everywhere and anywhere for its own sake. He goes out to photograph as another man goes out to shoot. And just as the man who goes out to shoot has a good time, so does the photographer. He has two great objections to photography. The first is that it is too purposeful. A man does not burden himself with a camera without feeling under an obligation to photograph. The apparatus is sufficiently heavy and complicated to convert the artist's excursion into a definite undertaking to obtain sun pictures, and so this becomes the purpose of his ramble rather than its latent and auxiliary charm. He cannot imagine the camera artist taking his apparatus with him and forgetting it until it is wanted to minister to some spontaneous mood, some freshet of emotion, or some pleasing association arising out of the mind's intercourse with creation or with picturesque humanity.

* * *

AN OLD OBJECTION TO THE CAMERA.

"John-o'-London" brings forward as his second objection the old one that, as he says, "photography does not give you what you see because it gives you so much more than you see. It is true that a sketch gives you much less than you see, but in these matters the part is ever greater than the whole. The beginning always suggests the end, but the opulent end frequently smothers the pregnant beginning. I am amazed," he adds, "by the unlikeness of photographs to the landscapes which they represent if I have seen that landscape first with my eyes. They are so like as to become unlike." Then, too, he objects to the indecent speed of photography. A photograph is the work of five minutes; in one click of the shutter the vision desired for years is registered. But has it been learned? "Would it have been assimilated? I think not. It would have been a far better record, I grant, to show to others, to be looked at with feelings of ordinary curiosity, but it could not have reproduced the moment in the same degree; it would never have had the same significance." As we are to have a reply this week from a photographic standpoint, we will reserve our own comment until both are before us. In the meantime, we would refer our readers to the article *in extenso* as a temperate but none the less vigorous and trenchant attack upon the claims of their hobby.

* * *

INTENSIFICATION WITH HYPO AND ALUM.

A method of intensification for negatives for which a great increase in density and other advantages are claimed is one which has recently been described in the *Photo Revue*. Like so many others, it is based upon bleaching with mercuric chloride. A process in which this bleaching was followed by the application of a blackening bath containing lead hyposulphite was described recently by Valenta. This gives a greatly increased density, but the bath prepared by the double decomposition of sodium thiosulphate and lead acetate is of somewhat uncertain durability. Lead sulphate is apt to separate out. It appears that various other metallic salts may be advantageously substituted for those of lead, aluminium being the metal which seems likely to be most useful for the purpose. The bath is made by dissolving an ounce of alum in thirty-two ounces of water, and then adding six drachms of hypo crystals. This is used after a mercuric bleaching instead of ammonia or sodium sulphite, and it can be employed over and over again. The intensified negative is liable to have a brown colour when redeveloped with metallic hyposulphites, whilst ammonia, of course, gives a very black image.

* * *

BURNING MAGNESIUM.

A good deal of uncertainty exists as to the actual quantity of light obtained by burning magnesium metal, and whether to use ribbon, wire, or powder in order to obtain the most complete combustion. Prof. Cristomanos has pointed out that neither the wire nor the ribbon burns completely in the air. Of ribbon two and a half millimetres wide he only found seventeen per cent. of the calculated ash, and with ribbon six millimetres wide only thirty per cent. Round the white glowing ash is a dark zone of unburnt magnesium vapour, which in its turn becomes enveloped by the bright flame. This presence of unburnt vapour, says Dr. Pinnow, of Bremen, can be likened to the unburnt carbonaceous gas in the flame of a candle. If a burning piece of ribbon be drawn across a glass plate and the ash examined, it will be found that as well as the white magnesium oxide there is a greyish-black ash containing finely divided magnesium metal, of course unburnt. The vapour of the metal burns readily to oxide, according to Dr. Pinnow's experiments, and leaves a very delicate, snow-white ash of a compact nature. It seems from these data that it would be preferable to use with magnesium powder some substance which will ensure more complete combustion.

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REGISTRATION OF COPYRIGHT.

The question of copyright and its registration appears to give considerable trouble to many of our correspondents. We have long undertaken to effect registration of copyright for our readers; but in consequence of several cases brought to us in which the conditions were altogether irregular and led to prolonged correspondence, we found it necessary to add to our offer a stipulation that it only applied to cases in which everything was straightforward. This stipulation appears to have been misunderstood by at least one reader, who seems to be under the impression that in such cases registration would be refused. We may point out for the benefit of this and possibly other readers, that the decision in such cases rests with the officials at Stationers' Hall, and that when personal attendance cannot be given in complex cases, a solicitor or patent agent should be consulted. The same reader raises a question as to lantern slides photographed from drawings, presumably of his own making. In such an instance, the drawings should be registered, since, if copyright were claimed only for the photographs, it would be open to anyone into whose hands the originals fell to photograph them again. This leads to a matter that troubles other correspondents, who are surprised to find that, having registered the copyright in a photograph of a place or person or thing, they cannot prevent others from photographing the same subjects. Possibly, these ideas are due to the silly statements appearing from time to time in the "Bits" type of newspaper, that Millionaire somebody or other "has had his grounds photographed from every point of view, and has had them copyrighted to prevent other people from photographing them." Perhaps the following brief statement of the case may be useful to some of our readers. A person owns the copyright in every photograph he has taken, unless he made it to order; but infringers of the copyright cannot be proceeded against until registration has been effected, and then only for infringement after the date of registration. Neither photographing nor registration gives a person any copyright in the scene or subject photographed.

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A MERCURIAL EMULSION.

Some interesting experiments with gelatino-iodide of silver and mercury plates are described by Dr. Lüppo-Cramer in the current number of *Photographische Korrespondenz.* He prepares a mercury-iodide emulsion in the following way: Sixty grains of gelatine are dissolved in a solution of ten grains of potassium iodide in two and a half ounces of water. At 50° C. this is mixed with thirty grains of mercurous nitrate dissolved in three drachms of water acidified with nitric acid. This gives a very darkly coloured emulsion, which becomes lighter during the washing, and finally assumes a yellowish-green colour. After exposure under a negative to daylight, it is possible to fix the plates and develop them physically with a "nascent silver" solution. Dr. Cramer uses ordinary hypo in most instances, and subsequently develops with a solution consisting of water two ounces, sodium sulphite one hundred and fifty grains, silver nitrate fifteen grains. This is mixed with an equal volume of two per cent. metol solution. Development after fixing only succeeds with *silver* iodide plates under certain circumstances; hypo must not be used for the fixing bath, but potassium cyanide in its place, and about twenty minutes should be allowed for the operation. Earlier experiments have shown that between physical development before and after fixing there exists no great difference. Mercury-iodide plates after exposure may also be developed with metol-soda, ferrous-oxalate, or even sodium sulphite alone, when the image produced is usually brownish-black on a yellow ground. The subject is one of considerable interest, and we shall hope to return to it at a later date.

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"PHOTOGRAMS OF THE YEAR" appears once again, and contains amongst other matter the usual critical article upon the two great exhibitions from the pen of Mr. A. C. R. Carter. Some of the illustrations are excellent, and most of the best known workers are represented. Others, while good in subject, are reproduced very poorly, while yet others have no place whatever in a volume which professes to be a "record of the artistic work of the year," unless it be that the desire to represent "all schools of photography" has led to the inclusion amongst the others of "the infant school." For the last two or three years at the least we have noted with regret that "Photograms of the Year" has hardly justified the promise of its earlier volumes. A more rigid selection of its illustrations and a little less of the desire to "say something nice about each" would make the book better and more useful. In spite of its deficiencies, "Photograms of 1903" is a book to have and to study; and its very bulk may be taken as in some measure an excuse for its shortcomings. It is published by Dawbarn and Ward; price 2s. net.

Correspondence

For the free discussion of all matters of general interest to Photographers

The Editor is not responsible for the opinions of his correspondents.

SULPHUR TONING BROMIDE PRINTS.

Sir,—The indirect method proposed by Mr. R. E. Blake Smith (*Photography*, October 10th, page 301) is a great improvement upon earlier sulphuretting processes, and will prove very useful.

As a somewhat cooler tone is often desirable, I shall be glad to know if what is said on page 302, that "the sulphite bath must not be allowed to get acid," must be taken as a condemnation of the use of potassium metabisulphite, instead of sodium sulphite.

A one per cent. solution of the acid potassium salt clears the paper much more rapidly than the neutral sodium salt, and gives a much cooler tone, approaching the autotype cool sepia! I enclose portions of a print showing the difference obtained. Yours, etc.,

J. STERRY.

[Mr. Sterry sends with his letter two strips toned for comparison. Both have a very pleasant colour, but there is, as he points out, a considerable difference between them, the one obtained with metabisulphite being much cooler in tone.—ED.]

Sir,—The reason why I recommend the conversion of the silver image of a bromide print into silver iodide and not into silver chloride or bromide is because I do not know of any really good chlorinating or brominating solutions. I have tried many.

From a purely chemical point of view, the best bleaching solutions to use are solutions in water of iodine, chlorine, or bromine, in the first case potassium iodide and in the last potassium bromide being added to promote solution. The chlorine and bromine solutions are not, however, suitable because of the obnoxious vapours (chlorine and bromine) evolved. A chlorine solution is much less offensive than a bromine one. I cannot conceive anybody using bromine water for anything larger than quarter-plate prints, and even then it is bad enough.

Such solutions as potassium ferricyanide, ferric chloride, manganic chloride, chromic acid with hydrochloric or hydrobromic acids or any of the variations of the latter solutions are not good bleachers. They bleach up to a certain point well enough, but then the action slows down very much, and a very long time indeed is needed for complete bleaching. They are good solutions for incomplete bleaching, but this is a practice I do not recommend, owing to the danger of uneven tones and the general uncertainty of the method.

Iodine dissolved in a solution of potassium iodide stands out as far and away the best bleaching solution when all things are considered. The slight difference that Mr. Somerville has obtained between the final result yielded by a brominated print and that yielded by one bleached with iodine is accountable for by the fact that silver iodide is soluble in a solution of sodium sulphite. It is true that it is very slightly soluble indeed, a five per cent. solution of the sulphite only dissolving one part of silver iodide in twenty thousand, but this solubility is enough to account for the difference.

A brominated print does not need a sulphite clearing solution—as I once thought before I had tried it—all the bromine being, like chlorine, entirely eliminated from the paper by simply washing in water.

Mr. Somerville evidently washed his brominated prints in water, and treated his iodine bleached ones with sodium sulphite solution. I must confess that I overlooked the possibility of a five per cent. solution of sodium sulphite altering the final tone of the print. The effect is not always apparent. No doubt it is there, but sometimes it is so slight as to be imperceptible, like the difference between Mr. Chamberlain's loaves. I have now carefully tested this point, and I find that sometimes, especially when the amount of sulphite solution is large in comparison with the area of the print cleared in it, a slight alteration in the final tone unquestionably does occur. I have previously pointed out that whenever a solvent of a silver haloid is present in any of the solutions employed in sulphuretting, the print finally obtained is both reduced somewhat and turned rather yellower in tone than what it would otherwise be. Here the actual solvent action is so slight that the result is under normal circumstances confined almost wholly to the latter of these two effects. A slight yellowish tinge is given to the tone, but practically no reduction occurs. The effect varies with the original silver image. The yellowish tinge is due to some molecular change in the state of the silver sulphide.

It is quite a common phenomenon for a very weak solvent to bring about a molecular change in a body it is capable of dissolving when it is itself at a higher concentration. Many instances of this are known in chemistry. To photographers the action of a very dilute sloution of "hypo" as an accelerator in ferrous oxalate development is familiar, and this action is probably quite similar. Small as the effect of sodium sulphite on silver iodide is, I certainly think notice should be taken of it, and I beg to thank Mr. Somerville for indirectly drawing my attention thither.

I must very strongly point out to him and others, however, that the best remedy does not consist of abandoning an iodine bleaching solution. It consists of retaining the iodine solution and modifying the sulphite clearing bath. The best plan is to use sodium sulphite (Na_2SO_3 $7H_2O$) 10 grains, concentrated sulphuric acid 3 minims, water to 1 ounce—that is, a solution of sulphurous acid. Washing *is* necessary between this bath and sulphuretting with sodium sulphide. This is a quicker clearing solution than a five per cent. solution of sodium sulphite ($Na_2SO_3 7H_2O$), and it does not alter the deposit of silver iodide in any way.

Ammonium sulphite has less solvent effect on silver iodide when used in equivalent proportion to the sodium salt, but its clearing action is also much less, and so for equal clearing capacity a much larger quantity has to be employed. Hence, no advantage arises from its use.

If used, sodium sulphite should be employed as dilute as possible. Except for the thickest paper, two per cent. is quite strong enough (I refer to the compound $Na_2SO_3 7H_2O$). Its strength should never exceed five per cent. I quite see now, however, that it is better to use sulphurous acid, washing between clearing and sulphuretting, which is after all not much extra bother.

At the risk of being tedious, I will once more add that if anyone likes a lighter and yellower brown than is given by the employment of a strong developer, the proper course is to give a longer exposure and use a more dilute developer, and so obtain in the first instance a greyer silver image. The use of a weak reducing (in a photographic sense) solution at any period of the process is an uncertain and so an objectionable proceeding. A grey silver image developed with a dilute developer gives not only a lighter but a yellower image.

There are a few other points I should like to mention—one, at all events, of the cream crayon papers at present on the market contains precipitable iron. They certainly do not all contain such iron. If anyone should notice a precipitate of iron occurring in the sodium sulphide bath he will, provided that he has freed his sodium sulphide itself from iron, know the cause. The remedy is, fortunately, simple. A solution of sulphuretted hydrogen can be substituted for the sodium sulphide; sodium sulphide ($Na_2S_9H_2O$) 4½ grains, concentrated sulphuric acid 2½ minims, and water to 1 ounce will serve.

But the best plan is to continue to use the sodium sulphide and avoid the offensive smell of the sulphuretted hydrogen. After the use of sodium sulphide in this case the print will appear slightly dirty and greenish all over. It is put into running water just as usual and washed for about one hour. By this time all or nearly all the ferrous sulphide will have become oxidised and will have washed out, but a bath of hydrochloric acid is necessary to remove the last traces of the ferrous sulphide and any traces of a basic salt which may have been formed. The hydrochloric acid is not applied directly after sulphuretting, because then the paper contains a lot of sodium sulphide, and so the acid would liberate sulphuretted hydrogen. The hydrochloric acid should be used about 0.5 per cent., and alum can be added if one is afraid of frilling.

Of course, washing in water is again resorted to after the acid bath. The tint of the paper will be lightened, since some of its colour (iron) has been removed, but the alteration is quite small. I hope all the manufacturers of the tinted papers will see in future that their papers do not contain precipitable iron.

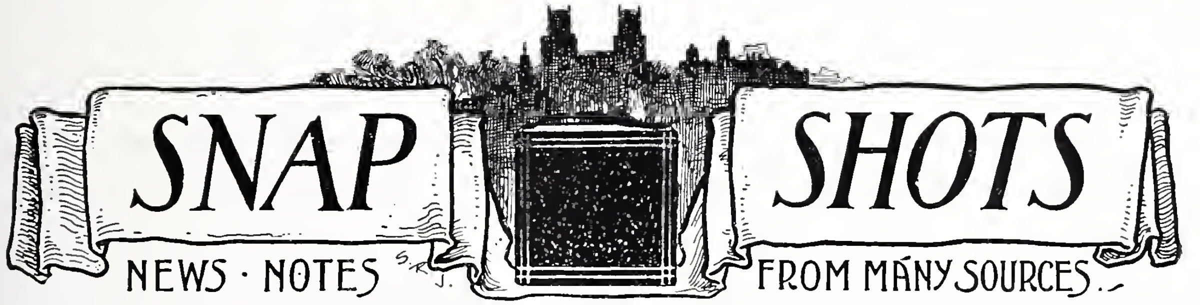
A more serious difficulty is blistering. With even a much stronger solution of sodium sulphide than I recommended in my article, the great majority of bromide papers will not blister. However, if anyone should happen on a brand or a sample that does there is, I believe, nothing for it but to use sulphuretted hydrogen in place of sodium sulphide. In case of blistering I would strongly advise that the makers of the paper be consulted.

With regard to the necessity of boiling the sodium sulphide, if the substance can be bought pure enough so as not to need boiling so much the better. I doubt this, however, although certain samples may be so bought at times. The crystals in any sample vary somewhat in the amount of iron they contain, some containing very little iron indeed. No doubt the manufacturers could prepare a purer product if they wished to, but as the present one is pure enough for its present main uses, I am afraid they will not. I fully admit boiling is to almost all people an objection, but I hope one will not have to do it for one's self long, as I hope to induce photographic dealers to put the pure concentrated solution upon the market.

I am absolutely certain that it is dangerous to use a sulphuretting bath containing iron, and nobody should do this. If there is only very little iron the precipitation may be so slight in the paper as not to be noticed. Of course, if any ferrous sulphide does get precipitated in the paper it can be got rid of as explained above, but it is far better to avoid its presence altogether. As I said in my article, the iron is slowly precipitated at the ordinary temperature, but the stock solution will have to be allowed to stand a long time for this to occur by itself. It is much better to boil the solution and get the iron out at once.

I think I have now answered all the points which have cropped up round this subject. Yours, etc.,

R. E. BLAKE SMITH.



SNAP SHOTS

NEWS · NOTES FROM MANY SOURCES

THE WHOLESALE LIST of prices of photographic materials and cameras issued by Messrs. Charles Zimmermann and Co., of 9 and 10, St. Mary-at-Hill, will appeal to all dealers. Developers, chemicals, aniline dyes, printing paper, and the Agfa specialities are listed in full.

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THE LONDON STEREOSCOPIC COMPANY, of 54, Cheapside, E.C., have issued a very complete catalogue of photographic apparatus and accessories. The company's own models of cameras are, of course, shown, and many other makers' goods find a place in the pages. Lanterns, lantern requisites, and enlarging apparatus of various kinds are listed.

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THE PROGRESS OF COLOUR PHOTOGRAPHY. A hand camera is now on the market, manufactured by Messrs. Prieur, Dubois, and Co., of Puteaux-sur-Seine. It has a pneumatic shutter, a lens working at f/5, and colour filters arranged so as to take a trichromatic snapshot, the three exposures at once. The price is 500 francs (£20).

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THE LANTERN SLIDE BINDING PRESS, sold at one shilling by Messrs. Matthey and Crabb, the Great Eastern Photo Stores, Blomfield Street, London Wall, E.C., is an ingenious little instrument that will save much trouble in lantern slide binding. It consists of two hinged pieces of mahogany with the jaws lined with velvet. When the binding strip has been placed in position the slide is pressed between the jaws, and the binding strip is smoothed neatly down.

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THE ANSCO VOTING COMPETITION is one in which the least skilful as also the most advanced of photographic workers have an equal chance of success. The competition is to call attention to the merits of the Ansco gaslight paper, and the competitors have to vote upon the merits of the T.E.B. Christmas cards. The competitors whose votes approach most nearly to popular judgment will be the winners. The first prize is a silver tea and coffee service, the second prize a lady's or gentleman's gold watch, and the third prize a high-grade free-wheel bicycle. Full particulars can be had from all photographic dealers.

"PROGRESSIVE STEPS IN PHOTOGRAPHY" is the title of a series of five lectures before the Central Photographic Society on Monday evenings by Rev. F. C. Lambert, M.A.

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"LA PREPARATION DES PLAQUES AU GELATINO-BROMURE" is the title of a handy little book by "Ris-Paquot" on plate making, describing all the operations on an amateur scale. It forms one number of the Gauthier-Villars Bibliothèque Photographique, and is specially written for "the amateur himself." Another number of the same series is "La Photographie Simplifiée," which treats more particularly of the ways and means of lighting one's subjects, and the various French makes of apparatus. The author is Pierre Petit.

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"NATURES RIDDLES, OR THE BATTLE OF THE BEASTS," by H. W. Shepheard-Walwyn, M.A., F.Z.S., F.E.S., published by Cassell and Co., at 6s., is an interesting book, in which the author sets himself the task of explaining natural phenomena. Solutions of the problems of protective colouring, mimicry, parasitism, are touched upon in a manner that is likely to attract the reader. If some of the reasons offered are not absolutely convincing they are at any rate ingenious efforts to throw light upon the riddles propounded.

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THE NORTHERN PHOTOGRAPHIC EXHIBITION (international and open), organised by the Liverpool Association in conjunction with the Manchester Amateur Photographic Society and the Leeds Camera Club, will be held in the Walker Art Gallery, Liverpool, from the 25th of March to the 9th of April. The exhibition, which will be open to amateurs and professionals alike, will be divided into four sections: (1) Pictorial photographs; (2) scientific and technical (prints and slides); (3) lantern slides (pictorial); and (4) trade exhibits. Fifteen awards are placed at the disposal of the judges, with power to add to the number. The awards will take the form of decorative plaques in silver gilt, silver, and bronze. Entries must be made not later than March 11th, and forms may be had from the honorary secretary, Mr. Chas. F. Inston, 25, South John Street, Liverpool.

LANTERN SLIDE MAKING

BY G. T. HARRIS.

The winter season is pre-eminently one in which photographers take up the making of lantern slides, and we have asked Mr. G. T. Harris, who is himself a practised and skilful worker in this direction, to prepare for us a series of chapters upon the subject. They will deal primarily with slide making upon commercial lantern plates, but will include also brief accounts of other methods: methods which we fear are almost obsolete, although the results which they yield are equal, if not superior, to the best that can be obtained on a ready made plate.

CHAPTER I.

INTRODUCTION—AIM AND SCOPE OF THE CHAPTERS—WHAT A LANTERN SLIDE IS—CONTACT VERSUS REDUCTION—MAKING A SLIDE BY CONTACT—DEVELOPER FOR BLACK COLOURS.

THE object of these chapters is to place before the slide worker a general review of the standard processes for the production of slides, with descriptions of reduction and contact methods, and details of such accessories as may be deemed most useful to the general worker. For the benefit of those who have yet to make their preliminary trials in lantern-slide work the subject will be treated *ab initio*, without assuming even an elementary knowledge of the process on the part of the beginner. Later on processes will be described that appeal more directly to the advanced worker and to the lantern-slide enthusiast; processes that are viewed by many simply with historical interest, and yet which are capable of giving the finest results when facility in their working has been acquired. Albumen, collodio-bromide, wet collodion are processes that few modern slide-makers connect with lantern transparencies, yet for downright quality no modern process can claim superiority over the time-honoured albumen, and slides of Ferrier's of thirty years ago hold their own when compared with the best work of to-day. Wet collodion, in capable hands, is still the process *par excellence* for obtaining crisp, bright results with a minimum expenditure of time and trouble, and collodio-bromide has the merit of having fixed a standard of excellence for the modern gelatine lantern plate.

A question the beginner in lantern-slide work will most probably ask himself is, "What constitutes a lantern slide?" He is, most probably, already in possession of the fact that, in the negative he has taken, the lights and shadows of the original are reversed, and that to obtain them as they existed in the original it is necessary to get from the negative a print which gives the lights and shadows of the original as they were seen by the eye. This "positive" print on paper will be viewed by "reflected" light, *i.e.*, by light reflected to the eye from its surface. If the gelatine film of a P.O.P. print were stripped from its paper support the "positive" image would be seen to exist in this film, but as there was no longer any white background paper to reflect the light through this image it could not be seen as a positive. Suppose this film were now laid upon a clean piece of plain glass and pressed firmly and evenly into contact with it, on being held up between the eye and a clear view of the sky the positive appearance would be restored and the picture would again be seen as plainly as when it was supported on the white paper. The film, in fact, has now become a lantern slide, but instead of being made apparent to the eye by light *reflected from* the white paper support, the eye sees the picture by light *transmitted through* the film from the background of the sky. It will be obvious, then, that fundamentally there is no difference between the paper print and the lantern slide, but that the one is, for convenience, placed upon a white paper support, while the necessity for using transmitted light in the optical lantern demands that for a lantern slide the image-bearing film be borne upon a transparent support.

It follows from what has been said that lantern slides can be printed from the negative in just the same way as an ordinary silver print, provided that the same sensitive material is used upon glass instead of upon paper; the image could afterwards be toned and fixed as though it were a paper print. At one time considerable lantern-slide work was done in this manner, as the image, becoming visible during printing, offered facilities for modifying it, not available when the image required developing. The inconvenience of using an inflexible support in the printing frame, which prevents a ready view being obtained of the depth of the print, coupled with the slowness of the process, debarred it from attaining any permanent popularity. At the present time lantern slides are produced almost exclusively on the lantern plates of commerce.

The exposure of a lantern plate may be either by "contact" or by "reduction." Suppose the worker employs a quarter-plate hand camera for taking the negatives, he can make his lantern slides by placing the negative in the printing frame as used for paper, adjusting his lantern plate upon the negative, film to film, closing the frame and exposing to gaslight for the necessary time. In this case he is working by "contact," and as the size of a lantern plate is

3¼ × 3¼ inches, while the quarter-plate is 4¼ × 3¼, it follows that, when working by "contact," some portion of the original negative has to be omitted.

It is frequently the case that when working from hand camera negatives some portion of the original negative can be omitted without detracting from the value of the picture, but where larger sized plates are used, half-plates and upwards, contact printing is out of the question unless some very small portion of the original is desired. When it is desirable to make lantern slides from negatives which are of much greater dimensions than the lantern plate the slides are got by reducing the original size of the negative, by means of the camera, until it shows on the focussing screen the same size as the lantern plate. A lantern plate being placed in the dark slide and exposed to this image will result in a lantern slide that embraces the whole of the subject that is in the larger negative. This constitutes the method of work known as "reduction." Later on full descriptions of these two methods of working will be given, with the apparatus necessary in each case.

Some workers of experience contend that finer results are got when making slides by reduction, even in the case of quarter-plate negatives. I am inclined to think that such is the case, though the gain in quality is not sufficiently striking to impress a beginner.

One decided advantage camera reduction has over contact printing is that, should any unevenness be present in the surfaces of either negative or lantern plate, the definition is not impaired. "Contact" printing is certainly the simplest form of exposure for the beginner, and as it can be conducted without any special apparatus, as it is entirely independent of daylight, and with some lantern plates, even of the customary darkroom, it is the method that will receive the first consideration in these chapters.

Before commencing any descriptions of the methods whereby lantern slides are made it may be well to caution the beginner against depriving himself of sufficient light in the dark room. The sensitiveness of lantern plates is so greatly inferior to that of plates used for negatives that it will take the beginner in lantern slide work some time before he acquires the courage to use all the light permissible with these slow plates. Some lantern plates are so slow that they can be manipulated in the light of a naked bat's-wing burner, if it be turned down, and the plates are not exposed unnecessarily to its light. With the ordinary lantern plate, made for reduction and contact work, the light of a paraffin lamp screened by two thicknesses of canary medium will give a light that is both safe and comfortable. It is convenient to have between the fabric and the lamp burner a sheet of finely ground glass which affords a very pleasant diffused light whereby to judge the density of the slide. It is convenient, also, on taking the slide from the fixing bath to raise the cherry-coloured fabric and have the greyed surface to examine the slide by.

The negative for contact printing, which will probably be of quarter-plate size, can be placed in a quarter-plate frame such as is used for paper printing; it is carefully dusted with a broad camel-hair brush to remove anything that might injure the film of the lantern plate. This latter is then placed upon the negative, the film of the lantern plate against the film of the negative. The lantern plate should not be slid into position over the surface of the negative or damage to the film may result; it should be placed deftly in the position it has to occupy without any need for readjustment when laid down. The back of the frame should be placed in position and fastened by the springs. It must be remembered that the thickness of the lantern plate will cause considerable pressure if the felt pad used in paper printing is employed here also, and usually quite enough pressure to ensure contact will be got without using the pads.

Having fixed the lantern plate in the frame it now requires exposing to light. Daylight is practically out of the question, as, in spite of the relative slowness of these plates, they are still sufficiently rapid to make daylight exposures unmanageable.

The most convenient light is a gas burner, and if it has a bypass, exposures can be readily made in the dark room without loss of time.

We must bear in mind the fact that in lantern slide work long exposures give warm coloured slides (the developer being suitably adjusted) and short exposures black tones. Suppose five seconds' exposure at a given distance from a bat's-wing burner gives a lantern slide of black tone, then with half a minute's exposure at the same distance the slide will have a brown colour, and with a minute's exposure the colour will be decidedly red. The developer would require modifying in each case to suit the increased exposure. Producing satisfactory warm tones in lantern slides, at the same time retaining other desirable qualities, demands more experience than making a slide having a black colour, and such being the case the beginner is recommended to adhere to the production of black coloured slides until he can make them with ease and certainty.

A negative of medium density, held about eighteen inches from a bat's-wing burner, would require an exposure of some six seconds for black colours, when the ordinary lantern plate was used, and developed with the formula given below:

Amidol	20 grains
Sodium sulphite	240 ,,
Potassium bromide ...	10 ,,
Water	10 ounces

Development is very rapid, much more rapid than would be the case with a negative, and the beginner has to be on his guard against obtaining excessive density. The exposure must be so timed that when development is complete the highest lights of the picture have no veil over them; this can readily be seen after the plate has been fixed if the slide be laid upon a sheet of white paper. The paper should show through the high lights perfectly white, otherwise a crisp picture, when the slide is projected upon the sheet, cannot be hoped for. As soon as density has been obtained in the developer the slide is placed in the fixing bath, made as follows:

Sodium hyposulphite ...	2 ounces
Sodium bisulphite ...	½ ounce
Water	10 ounces

This is a brief description of the making of a lantern slide, and the beginner is recommended to persevere with the above simple method until he can produce slides of good quality before undertaking the more difficult work of obtaining warm tones and making slides by reduction.

"The time has come, the Walrus said, to talk of many things"

A LADY who conducts a photographic page in an American paper states that in dealing with such matters "it is absolutely necessary that an instructor have an experimental as well as a theoretical knowledge of the subject which he is teaching."

* * *

This, you will observe, is written of the masculine gender, and presumably when the eternal feminine takes a hand in the game these vexatious conditions do not apply. For, a few lines back, the lady has been holding up to public opprobrium and general scorn a poor man who had directed a correspondent to pour six ounces of solution into an ounce pyro bottle.

* * *

"How," says our instructress, "how was he to pour six ounces of fluid into a one ounce bottle of pyro? Tell me that."

* * *

Madam, I will tell you how he was to do it. He was to have his six ounces of fluid ready, uncork the pyro bottle, and flop his liquid in. And to quote the old hymn, "Yet there's room!" Surely, madam, your experimental knowledge is sufficiently large for you to be aware that a humble ounce of pyro is of such dimensions that the bottles made to contain it are highly valued in this country for the purpose of pickling onions?

* * *

Hold six ounces! They hold a gallon of vinegar and a bushel of onions easily.

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Newspaper reports of photographic matters are sometimes very informing. A lecturer, dealing with the subject of snapshot photography, was reported as stating that "for this work a brilliant finder was a decided advantage *when the photograph had been taken*." He then dealt with the important question as to how to develop a snap shot. To which the answer was—Use gaslight papers. (Loud and prolonged applause, during which the lecturer resumed his seat.)

* * *

Probably a good many readers have heard of the picture postcard. Some may even have seen one. It is, therefore, interesting to know that the most popular portrait card is that of him who is familiarly known as "Joey," the introducer into this long-suffering land of the dread disease yclept fiscalitis. Next in popularity, but a long way behind Joe, comes Arthur of the ancient house of Balfour. Then Daniel of the tribe of Leno. The illustrious generals who recently occupied the place of honour are now ten a penny, whereas Joe fetches twopence.

* * *

It is well to be cautious in crowing about such popularity. The most popular hercoes and heroines at Madame Tussaud's are to be found in the Chamber of Horrors, and it is certain that if the pictures of the notorious criminals of the day were placed on postcards, even the great J.C. would run a bad second to them.

* * *

We poor ignorant and unaccomplished photographers should always be grateful for guidance and advice from artists. The artists say so.

* * *

I have just been looking at a photograph done by an artist who, after trying several trades and professions, has at last deigned to take up photography. It is a portrait of himself by himself by himself. That is to say, it is he, taken alone, by him. The effect obtained is very striking—so striking that you want to hit back, yet the method of producing it is so simple that it may easily be tried by all those who want to produce a portrait in a truly artistic style.

Having made a print, you cut out the figure with a pair of scissors, and paste it down on a white card. Now with a brush and some Indian ink go all round the outline of the figure. This, of course, gives a beautiful soft outline. Next fill up the white background with wobbly black lines like a conventional rendering of the grain in wood. Then you have your artistic portrait. Having got it, I would offer one further piece of advice—

* * *

Keep it.

* * *

Really, there are few things funnier on this humorous planet than the airs put on by artists when referring to photographic work. They bombard a photograph and its producer with a perfect fusillade of studio jargon and picture-gallery cant. Waving a pantomimic thumb in the air, they theoretically demonstrate how they could produce a far better result with a little soot on a piece of brown paper. The question is, Why in the name of Michael Angelo don't they do it?

* * *

The cool assumption is that an artist—that is, one who spreads colour or monochrome on a suitable surface by means of brush, palette knife, shovel, thumb, trowel, squirt, or other engine—always produces a "picture." It has no faults. Its drawing is accurate, its light and shade perfect, its composition delightful, and its colour harmonious. It possesses sentiment, soul, and individuality. It is a creation. It is the artist's very child—perfect, immaculate.

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A photograph, on the other hand, is, and can be, only a mere mechanical production, and as a medium of artistic expression is worth little or worthless.

* * *

All this is very sad. But how much sadder it would be if it were true!

* * *

Someone has been raising a plaintive wail because photographers are so seldom represented on the stage, and when they are they are invariably presented in a ridiculous light.

* * *

What else can they expect?

* * *

They have a simple remedy at their command. They could, if they chose, successfully demand that no play should be staged that did not have a photographer as the hero. All they have to do to secure this is to pledge themselves individually and collectively to produce photographs of all actors and actresses as they really are. That would bring the whole Thespian fraternity to their knees with one simultaneous bump. They would howl for mercy. They would accept any terms. Even to this:

* * *

"By kind permission of the R.P.S., the well-known play of 'Romeo and Juliet, or the Triumph of the Camera!' Romeo (a photographer of Verona), Sir Deserving Henry, Juliet (a retoucher), Miss Ellen Terrified. To be preceded by 'The Angel with the Kodak,' by Mr. George Eastman."

THE WALRUS.

SUBSCRIPTIONS.

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PHOTOGRAPHY

Edited by R. Child Bayley, F.R.P.S. Published Weekly

No. 784. Vol. XVI. SATURDAY, NOVEMBER 21st, 1903. THREEPENCE.

LANTERN SLIDE MAKING

BY G. T. HARRIS.

CHAPTER II.

Making Lantern Slides by Reduction on Commercial Plates—Description of the Apparatus for Use with Daylight—Table of Conjugate Distances—Reduction by Artificial Light—Fixed Focus Camera.

IN the previous chapter a very elementary description was given of the production of a lantern slide with the aid of a printing frame. The method given would scarcely satisfy any but a beginner anxious to produce a lantern slide without venturing too far into the intricacies of the subject. Complications and refinements are sure to attract the worker before long, the printing frame will be discarded for the camera, and the black colours gradually give way to warmer ones. To anticipate the desires of the worker, it will be desirable to devote the present chapter to the description of some arrangements for producing lantern slides by reduction with a camera, involving the use of both artificial light and daylight.

It was remarked earlier in these chapters that for any negative larger than quarter-plate it was essential to resort to camera reduction for producing lantern slides if the whole of the subject was wanted in the slide. The opinion may also be hazarded that as the lantern-slide worker becomes more competent he will incline more and more towards camera work as a means of slide making. Some processes for making lantern slides, though giving most excellent results, are too slow to permit of exposures in the camera, and one is compelled to reserve them exclusively for contact use, but in the case of a plate like the lantern plate of commerce, which is available either for contact or reduction, the camera will be found to be the most satisfactory means of obtaining a lantern slide. Even in the case of quarter-plates, which have been taken with a lens of fairly long focus, it is seldom that the slide would not have been the better for the inclusion of the whole of the subject.

The camera for use in making slides by reduction may be the ordinary field camera if it is of the "stand" camera pattern, but where lantern-slide work is followed systematically it is most desirable to have a camera relegated to the work of lantern-slide production. The arrangement shown in fig. 1 is that which is used by the writer; it is simple in construction, and does all that is required in making lantern slides by daylight reduction. It consists of a baseboard about four feet long and one foot wide; between two parallel guides running the whole length of this baseboard slides a block of wood the same size as the base of the camera, and having a ledge at either end to hold the camera firmly. A negative holder, with carriers for various sizes of negatives, slides at the other end of the baseboard, and the whole enables lantern slides to be obtained from negatives 15in. by 12in. down to 4¼in. by 3¼. The camera used on the baseboard is a square half-plate, but, of course, any camera can be adjusted for use in a similar manner. A very convenient instrument is one of the square

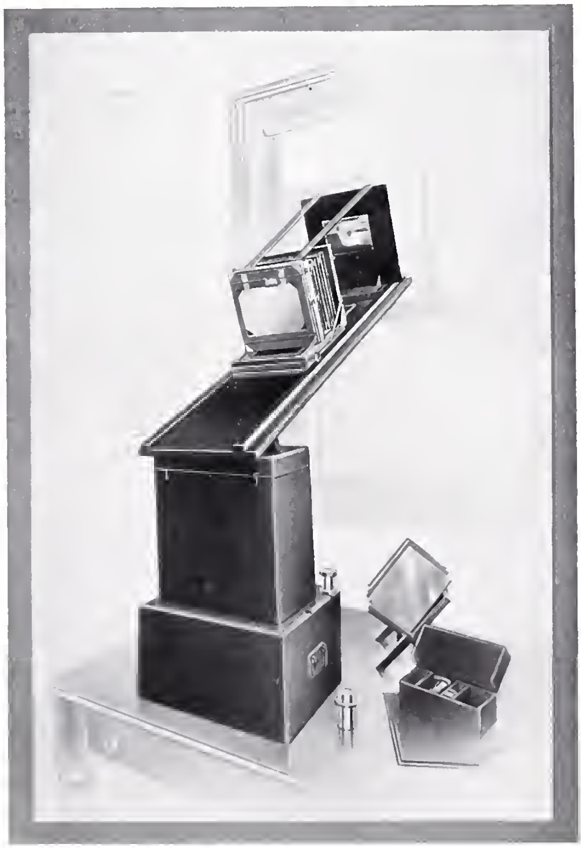


Fig. 1.

sliding-body cameras made for wet-plate work, which might be bought for a few shillings. If a camera of this description is permanently affixed to the block sliding between the parallel guides it makes a most efficient camera for lantern-slide reduction.

The lens used should not be of very long focus, or the exposures will be inconveniently protracted. Four and a half inches is a convenient focal length, and although a single landscape lens is permissible, it is better to use a lens of the rapid rectilinear form to avoid any possibility of distortion.

It will be seen from the illustration that the whole arrangement is inclined so as to command a clear view of the sky. If it is possible to exercise any choice, a northern aspect should be selected, as then no trouble is experienced from sunlight striking the negative. Should a north or north-eastern aspect be unobtainable, or should such objects as trees and chimneys project into the field of view, it is convenient to cover that part of the window used with one or two thicknesses of tissue paper, or, which is even better, a single thickness of white demy paper.

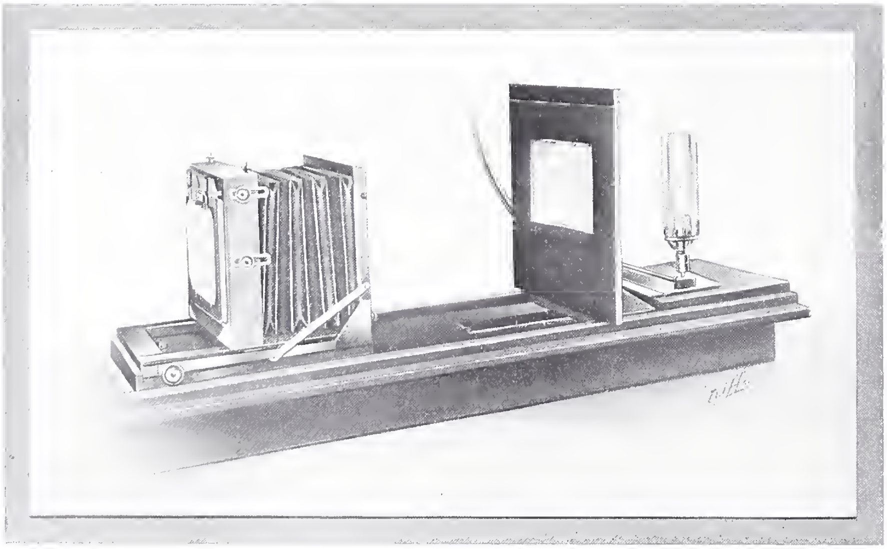


Fig. 2.

Two rods are shown in the illustration connecting the camera and negative holder; these are simply loose rods laid across to bear the focussing cloth, which is thrown over previous to exposure, to make a dark chamber between the lens and negative—a precaution that prevents any diffused light operating on the negative from the rear. Using the arrangement here shown for daylight exposures, with a four and a half inch lens and f/16 stop, the exposures with ordinary lantern plates will be about twenty seconds for black colours and up to three minutes for warm colours, the negative reduced being a half-plate, and the light outside good, diffused spring light.

It would be impossible here to go into the question of conjugate foci, so intimately associated with all matters of enlarging and reduction. The better plan for the beginner is to arrive at the correct distances that are necessary between the lens and plate on the one hand, and between the lens and negative on the other, by a system of trial and error, remembering that the greater the reduction the further the negative has to be from the lens, and the less camera extension needed. Once the correct distances have been found, marks made on the baseboard for the positions of the camera and negative holder will enable them to be speedily adjusted on all subsequent occasions. As a rough guide for preliminary trials, the following may be of assistance to the beginner:

Focus of lens.	Half-plate negative to 3¼ × 3¼.	Whole-plate (8½ × 6½) to 3¼ × 3¼.
3½ inches	14 inches negative to lens 4½in. focussing screen to lens	21 inches negative from lens 4 inches screen from lens
4½ inches	18 inches negative from lens 6 inches screen from lens	27 inches negative from lens 5½ inches screen from lens
5 inches	20 inches negative from lens 6½ inches screen from lens	30 inches negative from lens 6 inches screen from lens
6 inches	24 inches negative from lens 8 inches screen from lens	36 inches negative from lens 7 inches screen from lens

Reduction in the camera by the aid of artificial light is quite easily accomplished in the absence of daylight, and the majority of lantern-slide workers will find artificial light more convenient, as work can be carried on in the evening. Fig. 2 will give a good idea of the plan adopted by myself. The apparatus is that used in daylight reduction so far as the baseboard and camera are concerned, but it is, for convenience sake, used horizontally upon a work bench. Two Welsbach burners constitute the source of illumination (one only appearing in the illustration), and the light is diffused by passing through two thicknesses of tracing paper placed over the negative holder. The burners require adjusting at a sufficient distance from the tracing paper to give even illumination, and to this end they are fixed on a sliding stand.

The lens for use with artificial light should have as short a focus as possible to secure the maximum amount of illumination. A 3½in. rectilinear is very convenient if of good quality, so as not to require stopping down before definition can be obtained.

In place of the Welsbach burners an arrangement may be substituted for burning magnesium ribbon, or a flash lamp. The burners, however, are by far the most reliable illuminant. Magnesium ribbon is most convenient for contact exposures with very slow plates, but for reducing purposes its use is attended with some degree of uncertainty.

The simplest way of camera reduction when the negatives are all of one size is to use a "fixed-

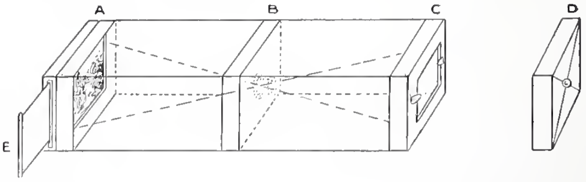


Fig. 3.

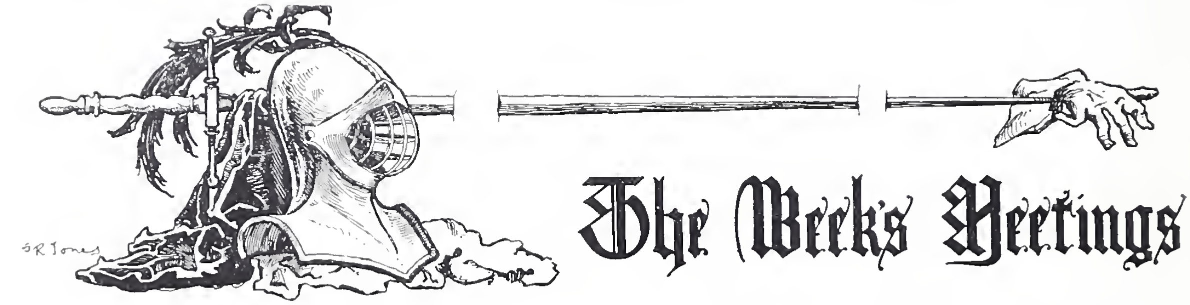
A SPRAY OF CHERRY BLOSSOM. BY C. C. COOK

From the current Southsea Exhibition.

focus camera" (fig 3). A rectangular box of the size of the negative to be reduced has provision made for holding the negative at one end. At the opposite end of the box is a frame with 3¼in. by 3¼in. aperture, into which a lantern plate is placed and held in position by a spring, a light-tight lid fitting on the end of the box. The lens is fixed near the middle of the box in a rigid frame, in the position to focus accurately upon the lantern plate. All that is necessary is to place the negative in position at one end of the box and a lantern plate at the other, to cover up both ends until the apparatus has been illuminated, and then to expose by removing the cover of the negative.

It will be seen that this method of work has very serious limitations. Should it be necessary to enlarge slightly the image so as to exclude from reproduction some unessential portion the camera fails utterly. Nor is it possible to use it for any other size than that for which it has been made.

Printing by "contact" necessitates little apparatus beyond the ordinary printing frame as used for paper prints. Ingenuity has been expended in devising printing frames specially for use in lantern-slide work. They are convenient when a slide is printed by contact from some portion of a negative very much larger than the lantern plate. But the slide maker may be content with an ordinary printing frame, merely putting underneath the negative a piece of plain glass the size of the frame for the negative to rest upon. By so doing no danger of fracturing the negative from the unequal pressure of the lantern plate need be feared.



The Week's Meetings

THURSDAY, NOVEMBER 19TH.

Glasgow Eastern A.P.A. Majorca. G. E. Thompson.
N.W. London Devonshire Dales. W. Kilbey and G A. Lawrence.
Hull. Home-made Apparatus. G F. Bristow.
Batley. A Tour round the Mediterranean. Mrs. A. W. Whiteley.
Chelsea. Slide Making. The Secretaries.
Ealing. Lens Making.
Blackburn. Exhibition of Cameras, etc. Thornton-Pickard Co.
Darwen. Slide Making. J. W. Smith.
Tynemouth. Trade Demonstration. W. F. Slater.
Richmond. Continental Scenes. H. Little.
South Norwood. Rotograph and Rotox Printing. W. A. Sims.
Liverpool A. New Tones on Bromide Paper. F. Anyon.
Handsworth. *Photography* Prize Slides.
L. & P. Paper by T. K. Grant.
Pudsey. Development. Toning P.O.P. Bromide Printing.
Camera Club. Smoking Concert

FRIDAY, NOVEMBER 20TH.

East Liverpool. Printing and Toning.
Boro' Poly. Defects on Negatives.
Chiswick. Gaslight Papers. J. Woodger.
Watford P.U. Visit to Messrs. Andre & Sleigh's Three-colour Works.
Walsall. Trade Demonstration. R. Hesketh.
Weymouth. Negative Making.
Plymouth. Carbon Printing. W Clayden.
Handsworth. Kodoid Plates. E. G Collins.
West London. Collodio-chloride Printing. J. Brown.
Reading. Lantern Lecture
Aberdeen. Exhibition of Slides. T W. Binner.

SATURDAY, NOVEMBER 21ST.

Hartlepools. Coxin. W. F. Slater.
Simpson Memorial Schools. Majorca.
Edinburgh. Exhibition opens. Constantinople and the Turks. J. Spence.

MONDAY, NOVEMBER 23RD.

South London. Lantern Slide Making. H. C. Beckett.
Glasgow Eastern. Annual Exhibition Receiving Day.
Oxford. The Efficiency of Shutters. E H. Binney.
Ilford. Lantern Night. Members' Slides.
Bradford. Open.
Southampton. Lantern Night.
Whitby. *Photography* Prize Slides.
Kingston-on-Thames. A Walk through Old Kingston. W. F.J. Hodgson.
Hastings. Portraiture. H. Baker.
Widnes. Colour Photography. E. M. Ellis.
Burton-on-Trent. Some Tenets of Art H. Barratt.
Scarborough. What can be done on Platona. C. Ponting.
Bournemouth. The Triumphs of Modern Photography. R. Y. Banks.
Camera Club. A Journey in the Sahara. H. King.

TUESDAY, NOVEMBER 24TH.

Halifax. Members' Folio.
Goldsmiths' Institute. Open night.
Thornton Heath. Carbon Work. L. G. Kough.
Hackney. Lantern Slide Making. F. E. Roofe.
Chiswick. Picturesque Devonshire. J A. Hodges.
Glasgow Southern. Composition. J. W. Eadie.
Monklands. How to Enlarge. J. Hugginson.

TUESDAY, NOVEMBER 24TH *(continued)*.

Leeds P.S. Decorative Photography. P Sheard.
Bedlington. Cristoid Films. W Routledge.
Darlington. Lantern Slide Making. S. L. Coulthurst.
Yeadon. Platinotype. J. Skilbeck.
Nelson. Members' Print Evening.
Isle of Man. Development. H. Hough, H. Cox, W. Beck.
Devonport. Hand Camera Photography. E F. Wallis.
Newcastle-on-Tyne Lantern Night
Birmingham. Bromide Enlargements and Architecture. J. H. Gear.
Warrington. An Ascent of Monte Rosa. O. Hislop.
Shropshire. Lenses. W. Heath.

WEDNESDAY, NOVEMBER 25TH.

Chester. Thornton-Pickard Cameras and Shutters. R. Hesketh.
Croydon. Architeetural Photography. C. H. Oakden.
Leeds C.C. Telephotographic Lenses. F. W. Parrott.
Boro' Poly. Preparing Pictorial Work for Exhibitions. R. R. Rawkins.
Cricklewood. Exhibition of Pictures and Prize Slides.
G.E.R. Mechanics' Institution. Judging of Prints and Slides.
Balham. Annual Dinner.
Blaydon. Exhibition.
Tynemouth Loan Exhibition opens.
North Middlesex. Photographic Records in the Highlands. C. Beadle.
Ashton-under-Lyne. Gelatine P.O.P S. Woolley.
Leicester. Trade Demonstration. W. F. Slater.
Isle of Thanet Gothic Architecture. J. Mann and T. A. Coysh.
Edinburgh. Printing Processes. J. Thomson.

THURSDAY, NOVEMBER 26TH.

N.W. London. Apparatus Night.
Hull. Ruined Abbeys of Yorkshire. Rev. J. Beanland.
Batley. Lantern Night. Rajar Changer. G. E. Rushworth.
Rodley. Flashlight Photography. H. Preston.
Gateshead. Carbon Printing. R. Henderson.
Tynemouth Loan Exhibition closes.
Richmond. Discussion on Holiday Prints opened by — Oetzmann.
Leigh. Papers, Printing, and Finishing. H. Morris.
South Norwood. Majorca.
Liverpool A. Lantern Lecture. G. E. Thompson.
L. & P. The Four Seasons of English Gothic. A. Bedding.
Bolton. What an Amateur can do with a Camera. — Rushton.
Camera Club. Picturesque India. E. R. Ashton.
Rugby. Photographic Novelties.

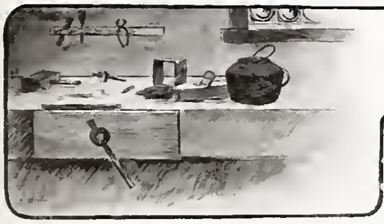
FRIDAY, NOVEMBER 27TH.

Boro' Poly. Lantern Slide Making. F. W. Gregg.
Walsall. Manufacture of Photographic Lenses. H. L. Aldis.
Weymouth. Exhibition.
Bromley. Stereoscopic Photography. A. W. M. Dickins.
Croydon Nat. Pinakol P. V. Pinakol Salt. J. H. Baldock.
Wimbledon. Lantern Lecture.
Reading. Perspective with Short Focus Lenses. — Wardell.
Aberdeen. A Trip in Normandy. V. C. Baird.

SATURDAY, NOVEMBER 28TH.

Glasgow Eastern. Annual Exhibition opens.
Edinburgh. The Cinematograph as an aid to Nature Study. J. E. Fraser.
Norwich Teachers' Field Club. Failures in Carbon. J. H. Goreham.

Societies will have their meetings announced here if the syllabus is sent to us at the beginning of the Session, or from time to time.



HOW TO MAKE

A Simple Mechanical Flash Lamp.

Described and Sketched by C. M. Whitney.

In the article which follows, which is condensed from one appearing in our contemporary "Western Camera Notes," the author describes how he made for use with magnesium flash powder a flash lamp, which could be actuated from a distance, and without forewarning the sitter by any noise or noticeable movement.

TO make this lamp, the first consideration is the base. This is made of hardwood, and is fairly substantial, so that it may possess sufficient weight to hold the lamp in position when the charge is fired. This base may be four inches wide by six or seven inches long, and one inch thick. Across one end is tacked a shallow trough bent up out of a piece of tin. The precise shape of this is not important, except that it is better to make it rather broad and flat, say two inches wide. About two inches from the other end of the base is fastened a block about one and a half inches high.

A piece of rather heavy wire, No. 12 gauge, is taken, and two close coils are wound round a piece of still heavier wire. The ends of this coiled wire are bent, so that they stand at right angles. Next a long slender screw that can pass easily through the eye or coil just made is taken, and with this screw the wire is fastened to the little block above mentioned, so that it can play easily on the screw as on a pivot. The front end of the wire where it projects over the trough is cut off, curling up the end into a loop. This loop should fall about in the centre of the trough.

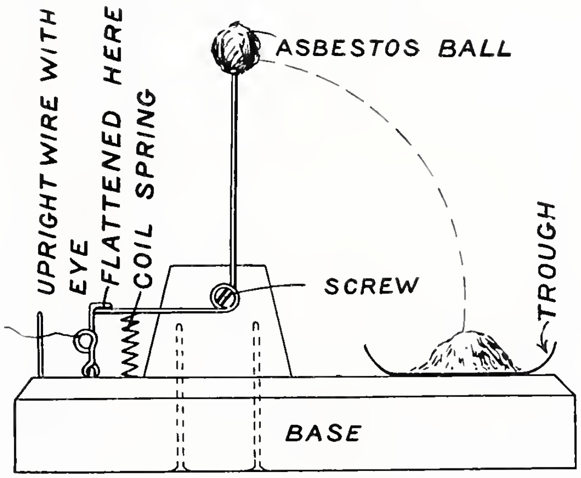
The other end of this wire is cut off, so as to fall about one inch short of the back of the base, and the end is flattened slightly on top and bottom. A hook is then bent up from another piece of the same size wire, one end with a small eye or loop in it and the other bent at right angles and flattened on the top and bottom to match the other bent wire. This hook is about an inch in length, and at about the middle of its length a turn is made so as to form an eye to which a thread or string may be attached.

This hook is attached to the rear of the base by means of a small staple, so that when the larger bent wire is tipped back, its flattened end engages with the hook. A small coiled spring is fastened to the baseboard just in front of the hook, so that it will press upward on the bent wire when the latter is held down by the hook. (See figure.) This spring should be very weak.

The looped end of the bent wire is wound with a wisp of asbestos fibre (candle or lamp wick will do), making a ball as big as a marble, firmly wrapped with fine wire. This completes the lamp.

The reader will have discovered how the lamp works by this time. The charge of powder is poured into the pan, the best results being obtained by spreading it in a row. The asbestos ball is wetted with spirit, and the bent wire tipped back and held down by the hook. Then if the spirit is lit, and the hook pulled back by means of a thread attached to the eye, the coil spring will gently tip the burning ball over into the pan of flash powder, and the latter is at once ignited.

If one is not particular as to the size or compactness of the lamp, better results are to be had by making the powder trough quite long—say eight or ten inches—as this allows the powder to be laid along in a train, thus giving a broad sheet of flame when it ignites. In case the trough is made as long as suggested, it may be made detachable from the base for convenience in packing, being held in place on the baseboard by a couple of wire pins driven into the base and passing through holes punched in the bottom of the trough.



A wire standard with a loop on the upper end, projecting from the back end of the base, through which the operating thread is passed, allows the operator to pull the thread wherever he may be stationed.

With this little piece of apparatus it is possible to fire the charge at the most opportune moment, thus enabling one to secure a natural expression in the sitter.

Hints on the Use of Oil Lamps in Optical Lanterns.

ALTHOUGH the incandescent gas mantle and acetylene gas are gradually diminishing the number of oil lamps used in the optical lantern, the older illuminant is likely to find favour with many workers for years to come. Much of the odium that has been cast from time to time upon the oil lamp is due, less to the lamp, than to the carelessness of those who employ it, and Messrs. Perkin and Sons, Ltd., of 99, Hatton Garden, the well-known makers of "Optimus" goods, have done well to issue a leaflet of instructions to the users of oil lamps in "Optimus" lanterns, from which we quote for the benefit of oil lamp workers in general.

"The lamp should be filled with the best paraffin oil procurable, and the best quality of wick is indispensable to brilliant illumination. The following suggestions will be of use to the operator:

"Thoroughly dry the new wick before fitting it into the lamp, and thoroughly saturate it with oil before lighting up.

"The wicks should be trimmed prior to each exhibition, and when not burning should be turned down to one-eighth of an inch below the top of the wick tubes.

"Be careful that the Russian iron telescope lamp chimney is fully extended.

"The lamp should be lit with wax vestas or tapers.

"When the lamp has been lit, the wicks must be wound up by degrees at intervals of a few minutes, until the correct height of flame has been arrived at. This method, besides improving the flame, gradually warms the condensing lenses, and renders them far less liable to fracture.

"The oil reservoir and other exterior parts of the lamp should be kept perfectly free from oil, otherwise this oil will vaporise on the surface, and will give forth a very unpleasant odour.

"Wipe the exterior surfaces of the front and condensing lenses with silk or similar soft fabric.

"The lamp, having been lighted, a test slide should be inserted in the stage between the condenser and front lens. An image will then appear (perhaps very indistinct) on the screen.

"The 'Optimus' lanterns are all fitted with a sliding draw-tube, which forms a rough adjustment to determine the correct position of the front lens from the slide. This front sliding tube should be drawn out until the picture appears with a reasonable degree of sharpness on the screen. It then becomes necessary to use the rack with which the front lens is furnished, and a nicety of focal adjustment can then be attained by turning the milled head of the pinion either backwards or forwards."

In addition to the above we would suggest that after rough focussing, the slide should be withdrawn, when the light should be centred, and a perfectly even illumination of the disc secured, after which fine focussing may be proceeded with.

An Improved Silvering Process for Mirrors.

IN a paper read at the Belgian Photographic Society recently, M. Schaer's method of silvering glass for mirrors used in telephotographic work was described, and the formulæ for the silvering solutions we give below for those who care to try them, as they are useful, and not always easy to obtain.

A reducing solution A is composed of sugar, 90 parts; nitric acid, 4 parts; alcohol, 175 parts; and water, 1,000 parts. The older this bath is, the better it works. Another solution B consists of water, 200 parts; silver nitrate, 2 parts; caustic soda, 1 part. For a mirroi twelve inches in diameter, one uses half an ounce of one per cent. silver nitrate solution, a quarter of an ounce of half per cent. caustic potash solution, six drachms and a half of ammonia (this forms the B solution), and five and three-quarter ounces of A. The silver nitrate solution is treated with ammonia until the precipitate formed redissolves, then the potash is added, and then the rest of the ammonia until the solution is quite clear. This liquid is mixed with the A solution, and the glass to be silvered is immersed in it.

The glass must first be washed with soap, and polished with chalk. The temperature at which the silvering is carried on should be 22° C. In this way it is said a mirror is formed which reflects almost ninety-eight per cent. of the incident light.

Fluorescence and Absorption.

SOME interesting researches have been carried out by Messrs. Wood and Moore, the results of which are described in the *Philosophical Magazine*. The experiments were to determine the nature of the fluorescence and absorption spectra of sodium vapour. The investigations were carried out by photographic means, and spectrum photographs obtained of the fluorescent light as well as the absorption spectrum of the vapour. The most interesting fact established, says the *Journal* of the Chemical Society, is that the fluorescent spectrum is the exact complement of the absorption spectrum, so that when the two were photographed side by side on the same film, either might have been a contact print taken from the other. This will be more readily understood by those who have themselves experimented with alcoholic solutions of eosin blue, a pink dye which in spiritous solution exhibits a remarkably powerful green fluorescence, the fluorescence again being complementary in colour to the dry dye. Similarly, many blue dyes have a yellow fluorescence, both in the dry and liquid state. It may be interesting to note that these phenomena are made use of in dyeing fabrics, causing the "shot" colours patronised so largely three or four years ago. The colour of fluorescence of any dye is a great guide to its orthochromatising action, as any dye the spiritous solution of which exhibits green fluorescence will prove to be a sensitiser for green, whilst certain brands of eosin which give a yellow fluorescence are of little or no value for sensitising. It must not, however, be thought from this that only fluorescent dyes are applicable to colour sensitising. Many of our most important "orthochromatic" dyes do not fluoresce under any conditions.

Kodak "Chic Series" of Christmas Cards.

THE Christmas mounts issued this season by Messrs. Kodak, Ltd., are characterised at once by simplicity and originality of design. They are all in self-colours, and the effect is obtained in most instances by boldly designed relief blocking, with, in some instances, the greeting stamped in harmonious colours, in others in gold. The styles are very varied, from simple cards on which the photographs are to be pasted, down to slip-in mounts and folded cards, with insets fastened with silk cord.

Some of the most effective cards on the list are on the roughest of felt papers, hand-made deckle edged, and in various shades of brown and grey. The cards will undoubtedly prove popular, and the Kodak Company are likely to receive enquiries for the last-mentioned papers in large sizes, to be used as mounts for prints for exhibition and wall decoration purposes. Both the texture and the tints are admirably suited for such use, and even those photographers who do not usually mount their prints as Christmas cards would do well to select a few of these with an ultimate view to the purpose suggested.

Velvotint Colours: A New Outfit.

SOME months ago we reviewed the sets of Velvotint colours, brushes, and stumps as brought out by Messrs. J. Barnard and Son, of 19, Berners Street, W., the well-known firm of manufacturers of artists' colours and materials. The popularity which these sets rapidly attained has induced Messrs. Barnard to introduce one of smaller size at 2s. 6d. The colours are in the form of very finely powdered crayon, and a selection of six of the most useful tints are contained in the set. There are a large number of photographic workers, who, having had no training in the mixing and laying of colour, are yet desirous of tinting the photographs they produce. To these the Velvotint powders will appeal, for they can be applied in a harmonious manner with the least possible expenditure of time in experimental work.

Matt surface photographs are best for taking the colour, a little of which is taken from the bottle and placed on the image, and is rubbed in with one of the stumps supplied. When the masses have been laid, the shadows may then be strengthened with darker tints, and the surplus colour is swept off with one of the larger brushes in the box. The powders are fixed on the paper by holding the print for a little while over the steam from a kettle, or a solution sold by the same firm as fixative, may be sprayed over the surface. The number of colours in the set will be found sufficient for early work, and when the need for other tints is felt they can be had in single bottles at threepence each.

THE COMBINED TONING AND FIXING BATH, much as it is condemned, is nevertheless used very largely, but one drawback to it is the difficulty of getting either warm red or cold black tones. A short time ago we gave a formula for a bath which would give red tones, and now we find in our contemporary *Apollo* a formula for black tones, which is as follows: In twenty ounces of distilled water, four ounces of hypo, ninety-six grains each of lead nitrate, lead acetate, and ammonium sulpho-cyanide are dissolved, and then three grains of gold chloride are added. This is allowed to stand for twenty-four hours. Ten to thirty minutes is given for toning and fixing, care being taken not to use the bath when exhausted, as permanent prints can only be obtained with fresh, vigorous solution.

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THE PRECIPITATION OF CRYSTALLINE GOLD by means of formaldehyde is the subject of a recent paper by Averkieff, in which it is stated that gold chloride in dilute solution is slowly reduced by formaldehyde, and the gold metal separates out in a well crystallised form. Ordinary reducing agents precipitate gold, says the *Journal of the Chemical Society*, only in an ill-defined, crystalline state. The precipitation with formaldehyde is best carried out in an acid solution, under which circumstances reduction is so complete that less than one-fortieth part of a grain of gold remains in a pint of solution. Platinum is similarly precipitated from an acid solution of the chloride, but the separation takes place much more slowly than is the case with gold. The specific gravity of the gold obtained in this way is quite different from that of some other forms of the metal.

PHOTOGRAPHY, No. 784, Vol. XVI.

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NOTICE TO CORRESPONDENTS

All letters, advertisements, etc., must reach the office on Friday morning to ensure being dealt with in the issue for the next week. In cases of great urgency, letters delivered up to the first post on Tuesday morning may be in time to receive attention, but this cannot be guaranteed.

Communications for the Editor should be addressed, The Editor of *Photography*, 3, St. Bride Street, London, E.C.

In all publishing matters, letters, orders, etc., should be addressed, Iliffe & Sons Limited, 3, St. Bride Street, London, E.C.

Advertisement copy and orders, and these only, should be sent to the printing works. They should be addressed Iliffe & Sons Limited, Coventry.

LEADER

Restrictions on Photography.

The difficulties placed in the path of the photographer who desires to perpetuate by means of his camera the lofty designs and manipulative skill of the men of old who builded our abbeys and cathedrals form a perennial subject of just complaint. Our contributor, Mr. A. Lockett, discusses the matter in a luminous manner in his article which appears in another column, and offers some helpful suggestions which, if they could be carried out, would simplify matters largely. Unfortunately, the obstacles in the way, although to some extent of an impalpable nature, are none the less troublesome.

We believe that the unreasonable objections to photographing in such edifices are no longer existent, and when those who have authority over the buildings can be met face to face, or reached through the medium of the post, a ready and courteous permission is immediately granted. The trouble is, however, that the tourist cannot always tell beforehand that he requires to get permission, and when once on the scene the time at his disposal is all too short for him to comply with the conditions laid down, and to receive an answer before he is compelled to depart. We are, in fact, hampered not by illwill, but by the letter of obsolete rules.

Were it possible to bring all the deans, vicars, and other custodians of our venerable relics of the past together, and to place the matter before them, we might hope to have existing regulations codified in such a way that the visitor to any district would know at once to whom to make application, and receive his permit without delay.

Members of recognised societies might even be spared that trouble, if Mr. Lockett's hope that the Red Book may be universally accepted as a pass could be realised. That something of the sort will one day be accomplished we have little doubt. The Affiliation Committee is doing good work in this direction, and if members of the R.P.S. throughout the country were to bring friendly pressure to bear upon the local authorities, much more might soon be done.

As it is the Red Book is already a heavy tax upon the funds of the committee, and as its scope and usefulness extend, the tax will become heavier. In the meanwhile, local societies and local photographers may do much to assist the committee in adding to the number of buildings, museums, open spaces, and other desirable places for photographic work, to which it acts as a frank. It is not possible for the Executive in London to get into intimate communication with local authorities, and obtain concessions with the same ease as can be done by those resident in the immediate district.

The advantages offered by affiliation should be of a mutual character, and it is in the direction of opening up to the general body the architectural structures scattered throughout the country, with their opportunities for archæological study, that the provincial member can render services as valuable as those he receives in the form of lectures and other advantages, which he and the society to which he belongs cannot always return in kind.

Spirit of the Times

"PHOTOGRAPHY" CHRISTMAS NUMBER. Before the next issue of *Photography* reaches the hands of our readers, we hope the Christmas Number will be published. It has always been our object in producing it, to avoid anything and everything of a severely technical character, for the publication of which just fifty-two opportunities per annum are provided us. The lighter side of our hobby and its pictorial capabilities are more in season in a Christmas book, and we think the many who purchase it for themselves, and the many more abroad to whom it is sent as a Christmas greeting, will find that the 1903 issue in both respects maintains the tradition of its predecessors. This year Mr. Frederick H. Evans gives us a thoughtful and very beautifully illustrated article upon "The Hands in Portraiture." Landscape photography generally is discussed by our frequent contributor, "Fecit"; "Photography in a Wood," by Will A. Cadby; and work of a pre-eminently winter photographer—Mr. W. Rawlings—is reproduced and discussed by one whose writings occasionally figure in *Photography* under the *nom de plume* of "Monochrome." "The Walrus" has taken advantage of the opportunity to tell his readers about an inventive friend of his, "Choggles," by name, while the doings of a somewhat eccentric winter photographer are recorded by

A STORM AT SEA.

From the current Southsea Exhibition.

BY F. J. MORTIMER.

another writer for the present, nameless. We have only to add that our publishers state that on every occasion heretofore, the Christmas Number has been out of print in a week, and that, while they are preparing to cope with a greatly increased demand, they can only guarantee the execution of orders received by November 21st at the latest.

* * *

A NOTE ON GROUPS.

One of the earliest lessons which is learnt by the amateur who tries his hand at photographing a group is to prevent his various sitters from gazing hard into the camera. He does this by arranging them so that they are looking in other directions, and possibly are simulating occupations of one kind or another. This is an advance upon the old plan, in which each subject stared stolidly at the lens, but if the photographer is progressing in his work, he soon finds that in avoiding the most elementary blunder he has plunged into one as grave, though less patent. The picture, to quote a recent writer, is "overloaded with endeavour of industrial attempt." The object of a group should be singleness of purpose, the occupation should be subordinate, and not the mainspring of the *motif*. It is a great mistake to get too much action into a picture, and to have every individual in the group busy at something or another. For this reason, therefore, it is well to let the group record a single incident, and not several, and at the same time the idea that every component in the group should be actively participating in that incident should be avoided. Nothing that is incongruous, or out of keeping with the action should be admitted—that, of course, goes without saying, but if there are any number of persons in the group, the majority should be passively rather than actively concerned in the incident.

* * *

HYPO IN A NEW ROLE.

From the patent journal of the United States, we find the photographer's friend—and foe—hypo, playing quite a new part; in fact, as a fire extinguisher. An invention has been brought out for interposing between the tap and the nozzle of a fire hydrant a vessel containing hypo, so that, instead of directing plain water on the blazing mass, a solution of this cheap and accessible salt shall be used. It is said to be much more effective for extinguishing flames, as the hyposulphite upon coming into contact with the burning objects is decomposed with the liberation of sodium sulphite and sulphur. The sulphur unites with the oxygen present to form sulphur dioxide, and the sodium sulphite unites with oxygen to form sodium sulphite, so that a large quantity of the oxygen present is taken up, and the fire is deprived of it. If, therefore, a fire takes place, and there is any choice between the use of water and of hypo, the hypo should have the benefit of the doubt.

* * *

ARTISTIC LANTERN SLIDES.

The protest which we published in our leader of a fortnight ago against the denial of the pictorial qualities of lantern slides, however much merit they might possess on other grounds, has not been without echo elsewhere. In his lecture on "The Search for the Picturesque," at the opening night of the Manchester Amateur Photographic Society's Exhibition, Mr. J. W. Wade spoke up strongly for the claims of the pictorial lantern slide. He pointed out that we had got past that stage when the term "magic lantern" was used, and hoped a new phrase would come forward to distinguish artistic lantern slides—slides made with skill and knowledge, and from the artistic standpoint pure and simple—many of which were truer as pictorial renderings than paper prints. We have before now referred to this question of the term "magic lantern," but it is not one that is easily altered, certainly for the better. Most people know what a magic lantern is, but to quite a number the term "optical lantern" conveys no meaning whatsoever. While it is true that there is no "magic" about a "magic lantern"—and for that reason the term may be regarded perhaps as a misnomer—"optical lantern" is nearly as incorrect, since every lantern is an optical lantern in the strict sense of the term. The Continental phrase "projection apparatus" is as nearly correct as we are likely to attain. The man who is deterred from slide-making from the alleged childish character of the term "magic lantern," we fear, is little likely ever to produce work of any particular value.

FORTHCOMING EXHIBITIONS.

SOCIETY.	OPENS.	ENTRIES CLOSE.	SECRETARY.
Edinburgh P.S.	November 21	November 7	J. S. McCulloch, W.S., 3a, North David Street, Edinburgh.
Berne International	November 25	—	Prof. Deichselt, 19, Bühlstrasse, Berne.
Glasgow E.A.P.S.	November 28	November 23	A Walker, 80, Garthland Drive, Dennistoun, Glasgow.
Hove P.S.	December 2	November 23	A. R. Sargeant, 55, The Drive, Hove.
Hull P.S.	December 2	—	W. Gilleard, 57, Clumber Street, Hull.
Dalziel Bazaar	December 10	November 28	James Dunlop, Myrtle Bank, Motherwell, N.B.
Ilford Church Bazaar	December 10	November 30	J. O. Watson, 164, Wellesley Road, Ilford.
Southampton P.S.	December 11	December 2	S. G. Kimber, Oakdene, Highfields, Southampton.
Chicago S.A.P.	December 29	December 15	Society of Amateur Photographers, The Art Institute, Chicago.
Wishaw and District	December 30	December 14	T. Peat, 75, Hill Street, Wishaw.
Liverpool A.P.S. Slides	—	January 30	E. Simnett, Percy Buildings, Eberle Street, Liverpool.
Sefton Park P.S.	January 5	—	H. E. Cubley, 3 Langdale Road, Liverpool.
Burnley C.C.	January 21	—	B Slater, Wood Nook, Burnley.
North West London P.S.	February 11	January 28	J. S. Fairfoull, 13, Addison Road, Walthamstow.
Scottish National	February 13	—	John B. Maclachlan, *Dundee Courier*, Blairgowrie.
Birmingham P.S.	February 27	February 22	L. Lloyd, Hollies, Church Road, Moseley, Birmingham.
Cripplegate P.S.	February 29	—	G. H. Depledge, 17, Hazeldene Road, Goodmayes, Chadwell, Essex
South London P.S.	March 5	February 20	W. C. Marshall, 41, Glendon Road, Lee, S.E.
Brechin P.A.	March 5	February 13	J. Kirk, 1, Infirmary Street, Brechin.
Nottingham C.C.	March 9	—	Arthur Black, 9, Bowers Avenue, Nottingham.
Brentford P.S.	March 15	March 3	F. H. Read Clifden Road, Brentford.
Northern	March 25	March 11	C. F. Inston, 25, South John Street, Liverpool.
Croydon C.C.	April 6	—	H. M. Bennett, Alipore, Duppas Hill, Croydon.

THE SOUTHSEA EXHIBITION.

Specially Reviewed for "Photography."

THE grouping or combining of forces of which the Southsea, Hove, and Southampton exhibitions form one of the most conspicuous examples has had its effect in improving very greatly both the standard of the work sent in and the number of exhibits. The judges at the Southsea Exhibition last week—Mr. Reginald Craigie and Mr. R. Child Bayley (editor of *Photography*)—found themselves confronted by a collection of very nearly one thousand exhibits, which included some of the most successful pictures shown at the two big London exhibitions that have just closed. Secretaries of societies may be interested to note that Mr. Mortimer, of the Southsea Society, reports that of the entries in the open section something like ninety per cent. are entered for the three exhibitions, so that, apart from the members' classes, we may take it that Hove and Southampton, like Southsea, will profit by a large and representative exhibit of current work this winter.

The Southsea Society is a particularly lively and energetic one, and, unlike a great majority of societies, not only has its own premises, but finds those premises large enough to contain even a big and successful exhibition such as this one. The large lecture room has had allotted to it Classes A and B, and as these two alone comprise 440 pictures, its hanging capacity was stretched to the utmost, and the committee had had to meet the difficulty to accommodate so many by means of supplementary screens. Owing to the size of Class A, which contains 250 entries, and the high quality of the work sent in, the judges decided to make three extra awards in that class. Mrs. G. A. Barton should indeed feel proud of being awarded the gold plaque of the society, which was given to her for the best picture in the show—No. 277, "The Awakening," in that the plaque itself is a very handsome production, as our readers will remember, and that competition was so keen.

In the landscape and seascape class (A) the awards are: Silver plaque, No. 60, "A Storm at Sea," by F. J. Mortimer. This is a slightly different version from the picture shown at the Salon and Royal, but carrying the title with equal force. Extra silver plaque, No. 221, "The House on the Marsh," by J. C. Warburg. A delightful little picture full of artistic feeling and well done. Bronze plaque, No. 85, "Shades of Evening," by A. Dawson Berry. One of the most pleasing rendering of misty woodlands in the exhibition. Extra bronze plaque, No. 106, "Three Fishers went sailing out into the West," Miss Agnes B. Warburg. A completely successful attempt at portraying a stretch of sunlit waters. Certificate, No. 61, "The Harbour Bar—Low Tide," F. W. Hicks. One of those subjects teeming with soft and tender gradations of light and shade that would appeal to the artist's eye, but lacking rather in any other quality. Extra certificate, No. 11, "A Wind Sea," F. J. Mortimer. This seapiece is already too well known to need further comment. Honourable mention, No. 233, "A Summer Sea," Rudolf Eickemeyer, jun. Among other good things in this class which run the winners close are Rudolf Eickemeyer's lovely pictures of winter landscapes, Dr. Otto Rosenheim's studies in gum, J. B. B. Wellington's "straightforward" landscapes, Capt. Haig's seashore studies, Graystone Bird's well-known work, Mrs. A. M. Dumas's always charming woodland scenes, L. J. Steele's Alpine and waterfall pictures, atmospheric effects by Carl Frederiksen (of Copenhagen), broadly treated street scenes in a medium not stated by Walter Zimmerman (of Philadelphia), F. J. Mortimer's wave studies galore, and Dr. Grindrod's magnificently strong and characteristic work in profusion. W. B. Post (of Maine, U.S.A.) shows some fine snowscapes, while other notable exhibits in this class are from Dr. T. G. Crump, W. R. Lathbury, G. H Vaughan-Morgan, A. R. Sargeant, C. H. Gale, A. G. Peck, Percival Crane, Fred Judge, Dan Dunlop, J. C. Warburg, J. C. Batkin, G. H. Faux, W. A. Clark, Walter Scutt, C. E. Etches, A. and F. Read, D. Deeley, C. J. King, S. A. Pitcher, and S. O. Black.

Class B (portraiture and figure studies) runs Class A close in the matter of numbers, and the work is also undoubtedly of a very high order throughout. The awards are: Silver plaque, No. 277, "The Awakening," Mrs. G. A. Barton.—It is not surprising that this beautiful picture, which caused so much attention at both the Royal and Salon this year, should not only score the premier award in this class, but also be awarded the gold plaque for the best picture in the exhibition. It is a triumph of conception and execution.—Bronze plaque, No. 351, "Portrait," Rudolf Eickemeyer, jun. A study in gum in this clever worker's best style. Certificate, No. 414, "Missy," Miss Agnes B. Warburg. An unobtrusive but pleasing little child study. Honourable mention, No. 419, "Her Tender Care," Rudolf Eickemeyer. Perhaps the most popularly pleasing of the series sent by this exhibitor. No. 262, "Breton Fisher Girl," F. W. Hicks. A strong figure study with a most luminous background of misty wet sands. No. 400, "The White Hat," Walter Scutt. One of the most convincing "gums" in the show. No. 415, "Julie of Etaples," Miss Constance H. Ellis. Possibly the least pleasing of this worker's contributions, being, unfortunately, the only one that arrived in time for judging. This class also contains many good things, among which may be mentioned several from Mrs. Barton, two delightful "indoor" figure studies by Niels Fischer (of Copenhagen), several irreproachable portraits from Mrs. Jeanne E. Bennett (Baltimore, U.S.A.), six tasteful studies in gum from Dr. Otto Rosenheim, forceful figure work from Dr. Grindrod, clever "professional" portraiture from Mesdames Garstin and Antrobus, and F. C. Macmahon, the latter's portrait of Sir R. Finley, the Attorney-General, being very fine. Rudolf Eickemeyer's other contributions in this class are also excellent. Dudley Hoyt (New York) shows exceptional quality in his exhibits, Miss Constance Ellis's work is always interesting, and Dr. E. F. Grün's specimens of work taken with the liquid lens are always exceedingly attractive, as also are F. J. Mortimer's flashlight studies. Notable pictures are also contributed by Dan Dunlop, Miss Marion Woods, A. Debenham (who shows a good portrait of His Majesty the King), Misses E. and A. Tomlinson, Miss A. B. Warburg, F. H. Swaine, C. H. Gale, Dr. T. G. Crump, C. B. Howdill, C. J. Hankinson, Fred Judge, and J. Hummel.

The next class (C), architecture, shows considerable variety, and the silver plaque is taken by No. 442, "Sunlight," by E. Salsbury Tardrew. As a fine rendering of brilliant sunlight streaming through an open doorway it would be hard to beat. No. 481, "Norman Work—A Contrast," by the Rev. H. R. Campion, takes the bronze plaque. This picture is probably too well known to need further comment on its excellence. No. 457, "The Eastern Crypt, Winchester," W. A. Clark, is placed third, and is a delightfully soft rendering of the mysterious locality it so successfully portrays. After the prize winners, the remainder of the pictures in this class show a very general equality of excellence, and in many cases betray the fact that thoughtful care and selection have been bestowed on their production. Fine work is shown by W. R. Lathbury, S. A. Pitcher, A. Bedding, F. J. Phillips, W. A. Clark, S. G. Kimber, C. Churchill, and others of which space only prevents a detailed account.

Class D (any other subject), although a large class, such a varied assortment of pictures is presented, from radiographs to designs for posters, that comparison is difficult, if not impossible. Perhaps the flower and still life studies and pictures with more or less artistic intent are in the majority. The judges awarded the silver plaque to No. 506, "Quomodo Dilex!" by the Rev. H. R. Campion. Miss Mary C. Eames's flower studies and O. G. Pike's clever bird pictures are also to be found in this class, while works by W. J. Croall, J. C. Warburg, W. M. Martin, J. C. Wallsgrove, S. G. Kimber, G. B. Ferguson, and J. C. Burrow are also noteworthy.

Class E (for amateurs who have never won an award) is likewise a big class. The judges awarded a silver plaque to No. 617, "The Shipwreck," W. H. Bullock; a bronze to No. 656, "Evening on the Shannon," Mrs. N. H. de Foubert; and a certificate to No. 586, "Sad Memories," S. Dawe.

The awards in Class F, lantern slides (landscape and seascape), are: First, F. J. Mortimer, "Wave Studies"; second, F. Greenway, "Landscapes"; third, C. J. King, "Seascapes." In this class, D. J. Hogg's marine studies and fine sets of slides by R. Warden Harvey, W. A. Clark, Graystone Bird, F. Parkinson, and F. C. Snell, are worthy of note.

In Class G (portraits and figure), F. J. Mortimer again scores the premier award with a series of strong flashlight portraits, B. H. Bentley comes second with some clever natural history slides, and H. Wild third with a set of figure studies. Dr. E. F. Grün, J. Stabb, A. E. Tonge, Dr. Rodman, and F. G. Tryhorn likewise show good work.

Class H (architecture and any other subject) contains by far the greatest number and variety in the lantern slides classes, and the judges' awards are: Silver plaque, Rev. H. R. Campion and W. A. Clark equal; certificate, E. R. Bull. Other competitors here are A. Bedding, R. Warden Harvey, Graystone Bird, R. R. Tyrer, F. Parkinson, Dr. G. H. Rodman, A. E. Henley, and F. C. Snell.

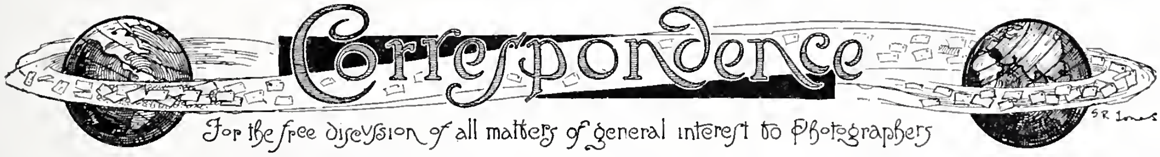
In the members' classes, landscape section, P. R. Denham takes first place with No. 682, a charming little sand dune picture entitled "A Lonely Shore." F. S. Hoyte comes next with No. 711, "Evening—Durham," a fine rendering of the dimly-lit town with windblown smoke from the chimneys, and the Cathedral in the background. A. de Silva takes third place with No. 693, a softly rendered little landscape, "Autumn Sunlight." A. A. Lawton's "Carting Clover" is very sunny, while L. J. Steele's magnificent cloud and mountain scenes stand out as noteworthy.

In this same section is some very fair work by M. Holloway, S. O. Black, W. J. Goatcher, and W. M. Cliffe. The portrait and figure section is not a very strong one. The first award goes to P. R. Denham again. L. J. Steele scores second, and G. Knight third. A. A. Lawton has also one or two good things in this class.

The architectural section contains much that is excellent, and J. Holloway deservedly takes first place with No. 777, "A Back Street, Berkhamstead." C. C. Cook's No. 756, "Street Scene in Dinan," is second, and the certificate also goes to C. C. Cook for No. 771, another excellent street scene. L. J. Steele shows some very sunny street scenes in this class, and F. S. Hoyte's cathedral interiors are very fine, as also are those by Dr. C. H. Newby. W. M. Cliffe, S. O. Black, and A. A. Lawton also show some praiseworthy prints. The hand camera class has brought out some excellent sets of snap shots, and the awards are: First, C. C. Cook; second, C. P. Woodward; third, A. A. Lawton. The awards in the members' lantern slide class are: First, L. J. Steele; second, A. de Silva; and in the last section (any subject), C. C. Cook again takes the silver plaque with his "Cherry Blossom," a very fine flower study indeed.

The special gold plaque, presented by the Mayor of Portsmouth for the best average of work shown by members of the Southsea Photographic Society in the members' classes, is awarded to P. R. Denham.

Altogether the Southsea exhibition, both in point of numbers and in the quality of the work shown, is one of which the society may well be proud. It should be not without its educational effect on the people of Portsmouth, showing them the position which has already been achieved by photography in the realms of art.



Correspondence

For the free discussion of all matters of general interest to Photographers

The Editor is not responsible for the opinions of his correspondents.

SULPHUR TONING OF BROMIDES.

Sir,—In reference to Mr. Blake Smith's able exposition of this very interesting subject, I beg to say that it is not so much the slight uncertainty introduced by the use of sodium sulphite—which, as he truly says, is very inappreciable—as the effect of the iodine on the starchy matter of the paper that I am rather doubtful about. Also I think it is advisable to produce as little change as possible in the molecular construction of the emulsion, and thus obviate to a great extent the risk of strain, as such conditions go a long way towards causing blisters.

Yours, etc.,
C. WINTHROPE SOMERVILLE

LANTERN SLIDES AS PICTURES.

Sir,—It will, I think, be generally conceded that the range of gradation in a lantern slide is longer than that in a print. But what then? Is there, after all, any real advantage in this increased range when pictorial expression is aimed at? Is not the idea of the advantage which technicians suppose the slide gives based on the somewhat erroneous idea that the more nearly a picture is "an exact replica" of nature, the better the art. Art is a convention, and succeeds best by suggestion, and perhaps an artist with a sheet of creamy paper and three delicate gradations of chalk will better suggest the impression of sunshine than will the photographer with a lantern slide of fullest practicable gradation made from a colour-corrected negative.

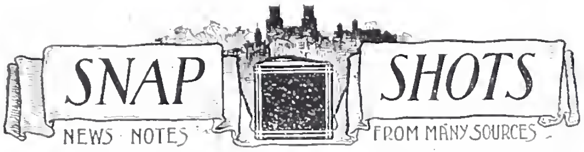
It is, I think, worth remarking that artists have never made any great use of glass or transparency painting, though it has been suggested by scientists more than once. It is hardly conceivable that artists in all ages should be uniformly blind to the advantages if they existed, or uniformly prejudiced against the method. I except, of course, stained glass windows, which stand quite apart. But of all stained glass I have seen the famous Reynolds windows at Oxford are most nearly like paintings in treatment, and they are remarkably soft and delicate in gradation, and I should imagine the scale of gradation is not so long as in some of Reynolds's paintings on canvas.

Of course, the question of relative advantages is one of opinion, but a consensus of opinion—as indicated by practice, both the practice of painters and pictorial photographic workers—is surely worth something.

There can be no question of the utility of slides for projection, not of their beauty. I am merely combating the claim that *because* of the extended range they are a more suitable means of pictorial expression than the paper print.

Yours, etc.,
C. H. HEWITT.

AT THE PHOTOGRAPHIC EXHIBITION in connection with the Friary Congregational Church Bazaar, the judge, Mr. H. Quilter, made the following awards: Silver medal, F. Parkinson; bronze medals, A. E. Burnett, H. A. Jackson, and E. H. Atkin; certificates, S. C. Stean, J. Smith, and A. H. Almond.



SNAP SHOTS

NEWS NOTES FROM MANY SOURCES

IN MOUNTING PRINTS by the wet method, the bottom print will frequently stick to the sheet of glass upon which it is laid by the time those on top have been mounted. I find that by pasting a sheet of paper on the glass and laying the prints on that all trouble is avoided.—J.W.

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THE MARRIOTT POSTCARD PRINTING FRAME, which we reviewed some time back, has reached a sale (we are informed by Messrs. G. Houghton and Sons) running into well over five figures, no small testimony to its usefulness and the appreciation it has met with.

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THE EXHIBITION of the Burnley Camera Club will be held on January 21st, 22nd, and 23rd. Entry forms can be had from Mr. B. Slater, of Wood Nook, Burnley.

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IN HIS DEMONSTRATION of "Chromatype" at the Croydon Scientific Society on the 13th inst., Mr. Gotz said that, after printing, the paper might be washed to remove the bichromate, dried, and could then be developed with hot water and sawdust at any time afterwards.

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THE BARROW NATURALISTS' FIELD CLUB has issued a report of proceedings for the year ending March 25th, 1902, and is introduced by an apology for its belated appearance. The section devoted to photography is brief, and shows that the membership remains steady, though the interest shown cannot have been great, or the projected exhibition would not have fallen through.

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THE FORMULA for an useful backing compound was stated by Mr. A. Brookes at the Southsea Society on the 11th inst. It consisted of a mixture of aurine, gamboge, and dragon's blood dissolved in methylated spirit. It formed a clear red solution which dried quickly, and did not require to be rubbed off before development, as it dissolved in the developer and turned that to a protective ruby colour.

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ILFORD, LTD. The directors have appointed Mr. Kemp Welch and Mr. R. D. Lewis to the vacant seats on the board created by the death of Mr. C. J. Cox and the retirement from the directorate of Mr. Hughes, the works manager. Both the *Financial News* and the *Financial Times* deprecated this, as the effect of the appointment will be to make it more difficult for the shareholders to have that voice in the appointment of directors which many think desirable.

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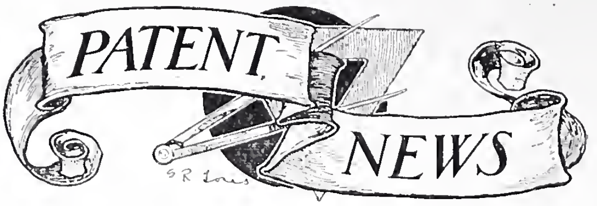
THE MANCHESTER AMATEUR PHOTOGRAPHIC SOCIETY held its exhibition of members' work last week, when a great advance was noticeable in the general tone and character. A greater number of good workers coming forward are noticeable than has been the case for many years—a fact that is a healthy sign for Manchester's photographic future. As regards the pictures themselves, Mr. James Shaw's best work is of an architectural nature; Mr. C. J. Harrison's work is good all round, and "In a Birch Wood" we see him at his best. Mr. James Hijson handles his clouds and foreground with a skilled hand. T. Longworth Cooper's portraits are a strong and striking feature of the exhibition, as was also his decorative Dutch poster picture. The president, Rev. H. W. Dick, is particularly happy with his genre work, most of which must be recorded as successful. S. L. Coulthurst's "Interior of a Church" is in his best style, as is also his "Suffolk Lane." "Under the Willows" would gain if printed in a warmer colour. A large number of the exhibits are of architectural subjects, mostly well done so far as technical qualities go, but we regret they are mainly of a topographical character. A portrait of an artist at work is clever, but shows the painted left-handed—perhaps the result of single transfer carbon. F. W. Parrot's flower studies are, as is usual, well done.

Our series of "Pictures from the Two Exhibitions" will be resumed next week.



PATENT NEWS

The following specifications of patents relating to photography have been published, and copies may be purchased at an uniform price of 8d., at the Patent Office, Sale Branch, 25, Southampton Buildings, London, W.C. The price of the specifications includes postage to any part of the United Kingdom. The additional postage to foreign countries is usually ½d. per specification. Postage stamps must not be sent on payment of any amount exceeding 11d. In ordering the name of the patentee and both the number and year of the patent must be given.

1902.

22,787.—Tattersall. Cameras.
22,808.—Solomon and Sheppard. Optical lantern.

1903.

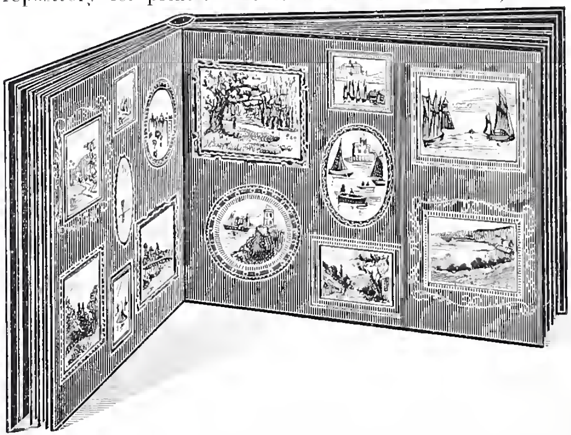
7,942.—Thomas. Changing and developing apparatus.
17,728.—Hunaeus. Apparatus for developing, fixing, etc.
18,720.—Mincer. Axis finders for lenses.

The Kinematograph and the Microscope.

MR. MARTIN DUNCAN has succeeded in using the kinematograph in conjunction with the microscope, and at the Camera Club last week stated that he had been able to photograph in this way living bacteria with a magnification of no less than one thousand diameters; but he had only just been able to do so, and had not had time to prepare prints from his negative films. He showed some marvellous pictures of other microscopic objects, however, taken in the same manner. Cheese mites, as big as kittens, chased one another over the lantern screen, and another picture illustrated the circulation of the blood in a frog's webbed toes. Seen on the screen, greatly magnified, it was described as a realisation of the boast of the *Daily Telegraph*—"The largest circulation in the world," and suggested as an animated poster for that journal.

A T.E.B. Album.

AFTER a long succession of slip-in mounts and albums, it is pleasant as a change to have to chronicle the appearance of one of the paste down variety. Both have their merits, and Messrs. Tyler and England Bros., of 79, Copenhagen Street, Caledonian Road, N., who have sent us the sample under review, have spared no pains to make it at once a handsome table book, and a suitable repository for prints. It is well bound in cloth, with a gold design, and the pages are of stout card, not at all likely to buckle under the damp prints, and are faced with dark grey-green felt paper, calculated to show up to the best advantage photographs in most tones. As will be seen from the accompanying illustration the spaces for the prints are surrounded by designs in relief. These serve to separate the prints from each other, but are not so conspicuous as to distract attention, and as the spaces vary largely in shape and size, there should be no difficulty in arranging quarter-plate prints that have been trimmed down to suit the subject. The album, which is numbered 1,000 in Messrs. Tyler and England Bros.' list, sells at 6s. 6d., and is exceedingly good value at that price.



QUESTIONS AND REPLIES

Readers wishing for information upon any specific point in connection with photographic theory or practice are invited to make use of the "query form," which will be found amongst the advertisements. All enquiries must comply with the conditions stated upon the query form; those which do not do so are neither acknowledged nor answered. All enquiries are answered by post. We cannot undertake to make replies in the paper. We print below from time to time a selection from the queries we receive, and our replies.

METOL-HYDROQUINONE DEVELOPER.

Please give me a formula for a metol-hydrokinone developer for snap shots, and say how it should be altered for time exposures.

The following will give good results with either time or instantaneous exposures: (*a*) Metol six parts, hydrokinone six parts, sodium sulphite twenty parts, citric acid one part, water one thousand parts; (*b*) potassium carbonate fifty parts, water one thousand parts. The metol should be dissolved in the water first, then the sodium sulphite and the citric acid, and lastly the hydrokinone. Equal parts of the two solutions should be taken for development. There is no need to vary the proportions as between time and instantaneous exposures.

GOLD CHLORIDE FROM GOLD LEAF.

Will you please state how I can make gold toning solution for silver prints by using gold leaf, nitric acid, and hydrochloric acid?

Gold chloride may be made by dissolving the gold leaf in three parts of hydrochloric acid and one part of nitric acid. The gold leaf should be lightly crumpled up so that it shall not lie too close together, and is placed in a convenient vessel (a tea cup will do), and just covered with the acid. The cup may be placed on the hob of the kitchen grate, or better still in a saucepan with a little water, and gentle heat applied. The acid should not be allowed to boil, or some of the valuable solution may be wasted. Should the acid first taken not dissolve the whole of the gold, a little more must be added. When all is dissolved, the heat must be continued till the acid is driven off, leaving the gold as a yellowish mass. This is dissolved in distilled water, and diluted to a standard strength, say two drams of solution to each grain of pure gold used. The solution will then be practically of the same strength as one made by dissolving a tube of gold chloride in fifteen drams of water, but must be neutralised before use by adding a little chalk to it. It will then be ready to be employed in any toning bath that may be selected.

PHOTOGRAPHIC RELIEFS IN PLASTER.

Will you favour me with formulæ for and outline of a photographic process by which I can make plaster casts by the bichromated gelatine process? Ought the negative to be made on a process plate?

In making plaster reliefs, the sitter, or whatever is to be photographed, should be illuminated with a side light, giving strongly marked shadows. As all shadows and dark parts of the object are represented in the cast by depressions, considerable skill is required to avoid unsuitable results. The negative should possess a long range of contrast, but there is no need to use a process plate. A film of bichromated gelatine as thick as possible is required, and printing must be carried on till all but the highest lights are strongly impressed upon it. This film is then soaked in water till the parts that have not been solarised swell up. A little acetic acid added to the water is said to add to the relief. A border of some sort is built round the gelatine, and liquid plaster of Paris is poured in, care being taken to avoid air bubbles. When the plaster has set, the border is to be taken away and the gelatine gently stripped off. A suitable formula for the jelly is: Soft gelatine, 10 parts; white sugar, 4 parts; and water, 25 parts. The gelatine is soaked in part of the water till soft, then it is dissolved by heat, when the sugar dissolved in the remainder of the water is added and the mass thoroughly stirred. To make the film, the jelly may be poured upon a glass slab, the surface of which has been rubbed over with vaseline, provided with a border round it to retain the liquid jelly. The thickness of the film must depend upon the amount of relief that is wanted, bearing in mind that the thicker the film the greater will be the difficulty in drying. From a quarter to three-eighths of an inch will probably be the greatest thickness that can be managed. The glass slab must be carefully levelled or the film will not be of equal thickness throughout. If the film is to be sensitised at the time of making, one and a half parts of finely powdered potassium bichromate is added with constant stirring while the gelatine is hot, but the better plan is to dry the film and then to soak in a three per cent. solution of potassium bichromate, to which as much ammonia has been added as will change the colour from orange to a bright yellow. The first drying of the gelatine is the most difficult, and it is desirable that it should not then be in a sensitive state.

THE BLAKE SMITH TONING PROCESS.

Can the potassium iodide bath be used more than once, and if so, how can its exhaustion be ascertained? Can the diluted sulphuretted bath be used more than once, and how can exhaustion be ascertained? Would it be safe or desirable to use an alum bath after sulphuretting to prevent blisters? A more certain method of giving a greater range of colour would make the bath a perfect one.

In our own practice we use the iodide solution over and over again until it is clear that it is not working very fast, which is shown by the fact that when the print reaches the sulphite bath the shadows of the image are not entirely bleached. The sulphuretted bath could, no doubt, be used over and over again, but being so dilute it is very cheap, and is better used fresh each time. We have used many brands of bromide paper without having been troubled with blisters during the toning process, so that it seems hardly advisable to use an alum bath. The advantage of a range of colour is of course obvious, but with the sulphide toning process any range of colour would deprive it of its one great merit, namely, that the whole of the image is converted into silver sulphide—a most permanent compound. We fear that a method giving a range of colour would depend upon a partial conversion only.

DEVELOPERS FOR PLATINOTYPE PAPER.

In the "Platinotype Process," by W. J. Warren, it is stated that when the D salts have been dissolved in fifty ounces of water, "this forms the stock solution which will keep." Does this mean that the working solution, made by adding one part of water to one part of the stock solution, will not keep at all? Is potassium oxalate the better developer for open landscapes, and the D salts for architectural subjects and portraits?

The dilute solutions of potassium oxalate and of the D salts are sometimes said to deteriorate by keeping, even when they have not been used, but we have never experienced any trouble in that direction. It is, however, desirable to keep the stock solutions in concentrated form, if only because a smaller jar will serve the purpose. After being used a number of times, the solutions become loaded with the salts from the paper, and then as there is a risk of them giving muddy prints, it is better to throw them away and make up fresh from the stock solution. The D salts give a colder tone than does a plain solution of potassium oxalate. It is entirely a matter of personal choice as to which should be used for any special subject. A cold black is suitable for some subjects, and a warm broken black is better for others, but no hard and fast rules can be laid down on the subject.

WIDE ANGLE AND OTHER LENSES.

I have thought of buying a quarter-plate Cooke or other high class lens with a large aperture for use in my half-plate camera instead of a half-plate lens. My work is chiefly landscape, architecture, and also interiors, and I thought it would be best to have a short focus lens for landscape and abbey ruins where space is limited, and to use the front or back lens only if a longer focus was necessary. Would it not improve my landscape views to use a short focus lens and get more in?

Any high class quarter-plate lens will make a good wide angle lens for use on a half-plate, but the back or front combination, even of the best make, will not act as a long focus lens equal in all respects to the entire combination, and the Cooke lens is not adapted for such use. A method of using the Cooke lens as a telephotographic lens was given in our issue for August 22nd. For general landscape work we should recommend a lens of not less than eight inches focus, or for the interior of buildings, say six inches. A good rule is never to use a wide angle lens when one of longer focus will serve the purpose.

MARKINGS ON FILM NEGATIVES.

Can you tell me the cause of the marking on the enclosed film? It does not appear to be due either to the camera or the exposure, as it occurs whether I use my own camera or a friend's. The hypo bath was rather stale; perhaps this may account for it.

The defect in the negative is not due to the camera, but to the developer in all probability, or, if not to that, to the use of stale hypo. Either might cause it, and as the hypo was stale, the chances are that this is where the fault lies. The negative itself is very much under-exposed, and it is always in cases of bad under-exposure that these defects are most visible. Such stains can often be removed by gently rubbing the surface of the film with a tuft of cotton-wool moistened with methylated spirit. To prevent them from occurring, do not allow the developer to stand ready mixed for any length of time, and use hypo freshly prepared for each batch of films. Our own course is to keep a saturated solution of hypo and mix an ounce or so with a similar quantity of water when we have any plates to fix, and throw it away afterwards.

THE BLAKE-SMITH TONING PROCESS.

Cannot the iodine bleaching solution be made up as a stock solution, as I find it impossible to absorb all the iodine in the proportions given, unless by heating, and this is troublesome for each bath. What would be the most convenient proportions? Mr. Blake Smith says that after precipitating the iron from the sulphide solution it should be almost colourless. Mine is a pale yellow; is that correct? Is there any way of regulating the depth of tone? The lighter prints appear to come out too yellow in tone, and to lose slightly in detail, whereas the slightly over-exposed prints do not. Is there any effect on the print by leaving it in the iodine solution or the sulphite solution for a longer time than is required to darken and bleach respectively?

The iodide bleaching solution can be used over and over again as a stock solution. There is generally a trace of iodine left undissolved at the bottom. Care should be taken that this is not poured on to the print, but apart from that no other precaution need be taken. The proportion should not be altered, as the solution is about as strong as it can be made up in the form given. Our own sulphide solution is faintly yellow. We should think that a solution which is decidedly yellow is incorrect, but we have not been able to make ours quite colourless. There is no satisfactory way of regulating the depth of tone. The process is unsuited to light prints, and the fact that it cannot be regulated is one of its advantages, inasmuch as the image is converted entirely into silver sulphide—a very permanent salt—instead of a partial mixture of unknown composition. There is no particular harm in leaving the print longer than is necessary in any of the solutions, but the correct time of immersion is quickly learned.

FORMULA FOR RETOUCHING MEDIUM.

Can you please tell me how to make a good retouching medium?

The following is an approved formula for a retouching medium: Sandarac one ounce, alcohol six ounces, and castor oil eighty minims. The sandarac is first dissolved in the alcohol, and then the castor oil is added. The making of varnishes and similar compounds on a small scale is always troublesome, seldom satisfactory, and certainly not economical. So small a quantity is required in everyday work that it will probably be better in all ways to purchase a bottle.

NEGATIVES THAT HAVE FADED AFTER INTENSIFICATION.

Several of my negatives which were intensified with mercury and ammonia about five years ago are now showing yellow spots or patches. Please give cause and remedy, if possible?

All negatives intensified in the manner indicated are liable to fade and to show markings in the course of time. Insufficient washing after fixing and between the various operations in intensifying accentuates this tendency. No certain remedy can be given. Immersion in a five per cent. solution of Schlippe's salt has been suggested. Should that fail the negative may be refixed in hypo, which will reduce the intensification and possibly remove the spots at the same time.

INCANDESCENT GAS MANTLES FOR PORTRAITURE.

Will you please give me instructions how to light a studio 20ft. by 10ft. with incandescent gas successfully?

Suggestions have often been made for the use of incandescent mantles in the studio, but we have never heard of them proving a practical success. If used, the burners should be arranged in rows above and behind each other, so that the upper rows should not be immediately over the lower. Twenty might be tried in three rows some distance apart, so that the light may proceed from as broad an area as may be desired. The position for the lights would be on one side and a little in front of the sitter, and reflectors would be required on the other side. We fear, however, that the light would be poor and the heat great.

MOUNTING CONDENSERS.

I have a pair of 9in. condensers, which I am thinking of mounting for enlarging purposes. I find on referring to various text books that they should be mounted with their convex sides nearly in contact. Will you kindly say if there is any rule as to the exact separation required?

In order that the condenser may collect and utilise the greatest amount of light, and at the same time cover the largest possible plate, the two halves should be brought as close together as may be without touching. By increasing the separation the focus of the combination is lengthened, but some of the light may be lost, and probably the condenser will not cover the same size of plate. Much, however, would depend upon the focus of the lens used and the consequent position of the illuminant. The lenses should fit quite loosely in the mount or they will probably break when they become heated.

NOTICE TO ENQUIRERS.

Answered by post: E. R. Shenstone, W. Baker, F. N., William P. Griffiths, W. Lawson. A. Campbell Alexander, J. S. C. Marriage, W. R. P., Hon. Mrs. Vyner, Ilford Shareholder, R. Bingley, H. R Young, C. F., E. I. Enderby, L. Harrison, G Lampbourne, E. B. Morley, W. T. Drage, J. W. Bishopp, C. J., W. Holdroyd, J. E. S., H. T. Bliss, Subscriber, Percy Underwood, C. Heinemann, Vidal, Leith, R. S. A,, Caractacus, Owen Fry, F. J. Harris. L. C. Cranbourne, Flashlight, C. E., Edinol, D. E. Goldby, K.V, Huntingdon, M. Tomlinson, G. Spicer, F. O'Neill, Panoram, C. S. Page, S. Faulding, T S., Dry Plate, C. J. Worthington, Ella Darling, Cooke Lens, H. Hartopp, M. L. D., W. C. W., Copyright, Dr. J. H. Wilson, Miss Caird, Lloyd Williams, Weston-super-Mare, H. J. C. Ingall, Professional, F. Swete, Walter Spencer, J. F. Dickenson, T. W. F., Snap-shot Iso, G. W. B, Constant Reader, C. Webb, J. B. Johnson, Mrs Heaton, Laurent, George Blake, Bertram (Exeter), G. N. M., Reader from No. 1, J. J. Pickering, J. J Macdonald, Apprentice H. J. M W., Stanley Crooke, H. Swetenham, Vidal Films, Dorothea Marshall, E. F. Philipson, Hagley Road, Slide Maker, W. J., C. Norcutt, R. B. Whittingham, Exhibitor.

Permits to Photograph. By A. Lockett.

THE question of permits has always been rather a sore one with the photographer. It is undoubtedly annoying to come across a beautiful and picturesque interior in some village church, during a holiday jaunt, and find on enquiry that, before a plate can be exposed, permission in writing must be obtained from the Dean of this, or the Canon of that, who resides some ten miles off. It would really seem as if the custodians of many such objects of ancient or historic interest have a special horror and dread of the photographer, and try to interpose as many obstacles in his way as possible.

There are notable exceptions, it goes without saying. A reference to the invaluable little "Red Book," issued by the Affiliated Photographic Societies. is sufficient evidence of the more liberal view taken by some. But, after all, on examination of the list of cathedrals and other places where nothing but production of the book is required to enable its owner to photograph at his will, we cannot but perceive how small it is in reality compared with the larger number not included. Places of interest in London seem, in particular, to be fairly hedged in with red tape restrictions. Take, for instance, the case of Westminster Abbey. In order to photograph any part of our national Valhalla it is necessary, first, to obtain a form of application from the Chapter Clerk. This is to be signed by either a member of Parliament, a Royal Academician, a barrister, or an Anglican clergyman,, and retransmitted to the Chapter Clerk, when, if all is considered satisfactory, a permit is at last forwarded, which, in most cases, it is requisite to get countersigned by the Clerk of the Works before it can be used. While fully aware of the necessity for safeguarding, by every possible means, so valuable and priceless a link with the past as our venerable Abbey, it still fills the photographic mind with a sense of irritation and protest that such an elaborate formula must be gone through before a tripod can be erected. To give another example. A well-known worker recently set up his apparatus under the entrance portico of the National Gallery in Trafalgar Square, intending to obtain a picture of St. Martin's-in-the-Fields. But no, he had hardly got his head under the focussing cloth than authority in the shape of a watchful policeman demanded a sight of his permit. "But, surely, one is not necessary to use a camera in the open air, and practically outside the building!" protested our friend.

It appeared, however, that such was the case; camera and stand had to be closed, and a visit paid to the Director of the Gallery, who, fortunately, was to be found no further off than next door. A courteous permission was readily accorded, but fate was against our friend. When he returned, the light had unkindly changed, and his opportunity, for that day at least, was lost.

It is all so different abroad. Unless the photographer is foolish enough to approach within measurable distance of any defence or fortification, he will find officials of every description anxious to make things easy for him. The famous churches and public buildings of the Continent may be photographically recorded, with, in many cases, no other necessity than speaking to one of the vergers or attendants. The endeavour to obtain a photograph

THE SPORT OF KINGS. BY P. R. DENHAM.

From the current Southsea Exhibition.

of anything is regarded abroad as a laudable and good work, but the conservative and insular spirit of this country seems virtually to view the camera with suspicion and antagonism, or with a pitying and tolerant endurance halfway between ridicule and contempt.

Perhaps there may have been some slight cause for this a short while ago, when a few, whose ignoance and vulgarity formed their only excuse, may have abused the liberties given them, more especially in the use of the hand camera. But good taste is now entirely in the ascendant, and any breaches of it would be immediately and emphatically condemned by those most interested. It is unfair and ethically wrong that the many should continue to suffer for the few, when the chances of misuse of privilege are so vague and remote.

We will give an instance of the disagreeable way in which the present restrictions sometimes operate. A French gentleman, whose name is familiar to the photographic world, was lately able to spend a few hours in a certain English cathedral town, on his way back to the Continent. He was extremely desirous to add a few views of the famous cathedral to his collection, and hastened there with his outfit, only to meet with the usual stereotyped formula that the Dean must be written to first for permission. Expostulation and assurance that the traveller must shortly catch his train were of no avail. The Dean was unfortunately away, and would not be back till the following day. At last the cathedral attendants agreed to recognise an order from the Mayor, and our Gallican visitor rushed off in a cab to obtain it. The Mayor was affability itself, and his authority was readily given, but the loss of time was fatal. The traveller had barely erected his camera than his watch warned him he must leave; the train would wait for no man, and photography was abandoned.

Perhaps our ecclesiastical and other authorities are under the impression that if the photographer's path were made easier, their pillared aisles and dim cloisters would be daily blocked up by forests of tripods, preventing the ordinary visitor from so much as moving. An increase in the number of camera users would be only natural, of course, but it is highly improbable that they could become so numerous as to cause inconvenience. It is, indeed, a curious feature of the British character that whatever is permitted without let or hindrance loses a good deal of its attraction, and it is quite within the bounds of possibility that freer access would diminish rather than increase the ranks of those anxious to secure photographs of our public buildings. It is certainly a fact that some places where no permits are required are those where the camera is most seldom seen.

Meanwhile, how many admirable and interesting records are perhaps being lost, because never attempted, through the present short-sighted policy! Public interest in our ancient abbeys and churches could not but be enhanced by the greater frequency with which good photographs of them were met with. Funds for restoration and preservation would be more readily forthcoming than at present, as a consequence of better acquaintance with their beauty of architecture and detail, which the spread of good pictorial photographs would be far more likely to give than the usual official variety on sale in or near the building.

What is desired is a recognised standard of recommendation, on presentation of which a photographer may be allowed to photograph anywhere, without other formality or requirement than compliance with local byelaws or regulations. A kind of universal "Red Book" would meet the difficulty exactly. A central photographic body should make itself responsible for the respectability and *bonâ-fides* of all to whom their license is issued, which, being once done, with ordinary commonsense and discretion all other bodies whatsoever might safely accept the photographer's credentials without further inquiry.

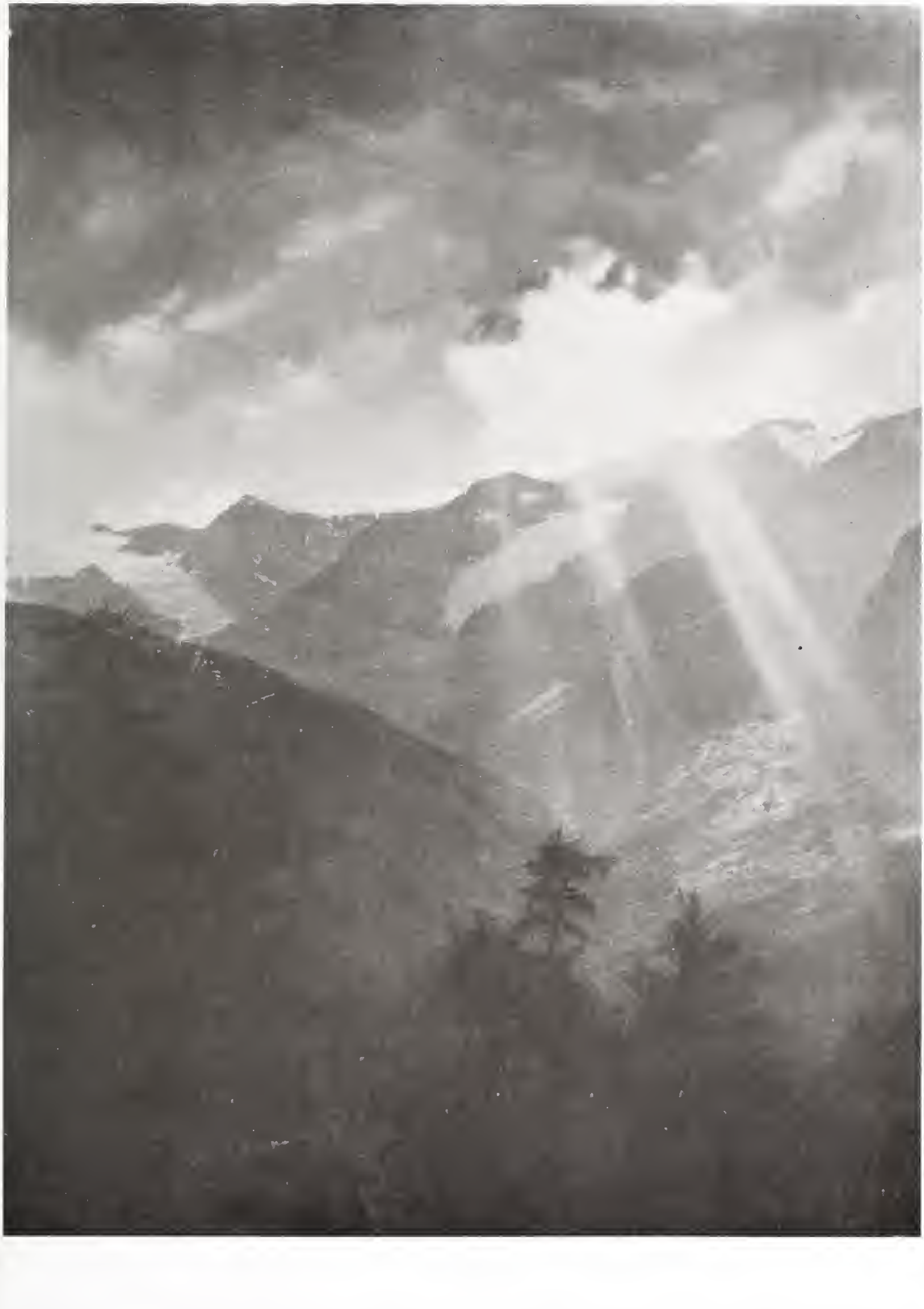
In many cases, the alternative plan might be adopted of charging a small fee on the spot for permission to photograph, as is now done very satisfactorily at St. Bartholomew's, Smithfield, and other churches. This is far more pleasing to the man in a hurry, and less obnoxious to his *amour propre* than the ridiculous necessity of sending in a form of application with two or three references. It has, moreover, the advantage of adding to the funds for preservation or repair of the fabric, or some other good purpose.

There is one more point connected with this question of permits which is worth consideration. It is this. Some few places make the express stipulation that photography is only allowed on the understood condition of no prints being used for publication. This is the case in a certain famous London church of great antiquity, which, in spite of its extreme beauty, we very seldom see photographed. It certainly seems a very unfair and undesirable restriction, for which it is difficult to imagine a reason, since, as far as we can ascertain, no one enjoys a monopoly in the production or sale of photographs of these particular buildings. There are also several instances where professionals only are allowed to use their cameras. This, though less unreasonable, is still far from up to date or liberal-minded, and would unquestionably be better altered. It has been calculated that a week in London spent in obtaining records of only a few of the most interesting interiors, entails the writing of dozens of letters, and payment of return postage on each, besides the collection of quite a sheaf of references.

We look forward to a more sensible arrangement in the future, when, as we have suggested, the simple production of a recommendation from the leading photographic body shall be the "open sesame," and only needed passport to the artist of the camera in all places where an exposure may be made.

ANTINOUS SHUTTER RELEASE. In our notice of this instrument we gave the name of Messrs. G. Houghton and Sons as the sole agents for its sale in the United Kingdom. We should have said the sole wholesale agents.

IN THE PHOTOGRAPHIC SECTION of the Trades' Exhibition at Plymouth, the judges, Messrs. H. Snowden Ward and W. D. Finch, awarded silver medals to F. A. Swaine, H. T. Jessop, C. J. King, E. Seymour, A. Marshall, F. J. Mortimer, Rev. H. R. Campion, W. H. Mayne, and Capt. E. H. Haig. Bronze medals were awarded to H. Ball, Graystone Bird, W. T. Paul, F. W. Beken, J. Catford, J. R. Sandiland, W. B. Lathbury, Rev. E. J. Clark, A. Brand, C. Winter-Wood, J. Trouern-Trend, and Dr. W. H. Waterfield, and diplomas were awarded to V. T. Paul, S. Chenhall, J. H. Coath, W. M. Martin, J. W. Welsh, F. Judge, Miss Hilda L. Rowe, W. Lidgey, S. G. Kimber, A. B. Fellows-Pryme, E. H. Micklewood, and A. R. Hunt. The section was organised by Mr. Chas. R. Rowe (formerly associated with *Photography*), to whom the success achieved was largely due.



LUX EX TENEBRIS

From the current Southsea Exhibition.

BY LOUIS J. STEELE

The Ever-ready Acetylene Generator.

ACETYLENE gas gives so brilliant a light and is so convenient in many ways that when coal gas is not laid on and compressed gasses are troublesome to come by the lanternist may well rely upon it. A well-designed and soundly-constructed generator is, however, a necessity, if annoying, not to say dangerous, accidents are to be avoided. Generators may be divided into two classes—those in which carbide is dropped into water, and those in which water is dropped upon carbide. The latter may be put out of court at once; they generate great heat, and in doing so give off the gas in a very impure condition. Another defect is that once the carbide has been wetted the whole mass will be decomposed, and this applies quite as strongly to the apparatus in which a basket of carbide is momentarily dipped into water, as to those in which water drips upon the mass of carbide.

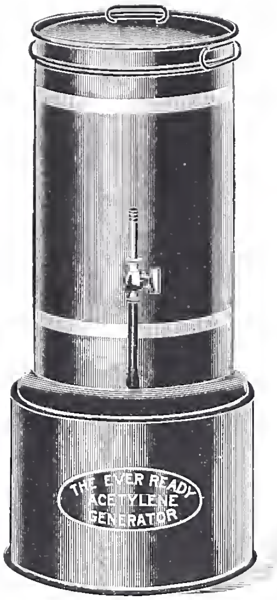


Fig. 1.

Of the first-mentioned type, a capital example is the new generator brought out by Messrs. Butcher and Sons, of Camera House, Farringdon Avenue, by the name of the Ever Ready. Its outward appearance is seen in fig. 1, and the internal construction in fig. 2. Its capacity is one pound of granulated carbide (and this should be small enough to pass through a one-eighth mesh), which is placed in the container—the cone-shaped piece of apparatus with the central valve and the outspreading arms at the top of the generator. The bell A and the container being removed, water to the amount of six pints is poured into the bottom chamber B. Sufficient water is then poured into the outer chamber C to reach within an inch of the holes near the top. These holes serve a very useful purpose, for if by accident too much water was put in, it would escape through them to the inner chamber on the introduction of the bell, while if they were not there there would be a risk of the container being flooded.

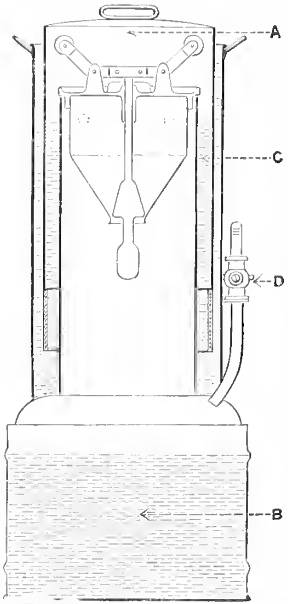


Fig. 2.

Before putting the apparatus together it is desirable to blow down the outlet tap D to make certain that it is not choked up. The container is placed in position, and the bell inserted within the outer chamber. A burner or burners having been attached to the outlet and the tap D being turned on, the bell will descend by its own weight expelling the air. When it reaches the levers on top of the container they are depressed and raise the valve, allowing a small quantity of the carbide to fall into the water. Acetylene is at once generated, and in about a minute the mixed air and gas will have escaped, when the pure gas may be ignited.

As the gas is generated the bell is lifted, stopping the supply of carbide; and as the gas is consumed the bell falls, and more carbide escapes into the water. In use the bell remains practically constant at the same height, allowing a small but constant stream of carbide to escape and make good the gas consumed. If at any time before the whole of the carbide has been consumed the gas is no longer required, all that need be done is to turn off the tap at D, and generation at once ceases. In this condition the generator may be left for weeks, and will be ready for use at a minute's notice.

From the description it will be seen that the generator is sound in design, the carbide being dropped in small quantities into the water, the gas is delivered cool, there is no possibility of over-generation, and the apparatus is always ready for use. The special feature is the lever-governed valve, and is the best arrangement that has come under our notice. When we add to this that the price of the generator is 21s., it will be recognised that the apparatus is the lowest priced and the most efficient that has been brought out. Granulated carbide is supplied by Messrs. Butcher and Sons at sixpence per pound, and one pound will supply three burners for two hours.

Failures with Bromide Papers.

IF only a very feeble image appear on development, it may be taken for granted that the sulphite in the solution is too old, or that the wrong side of the paper has been placed next the negative during exposure. If the image is without contrast, it will be the result of too thin a negative, or over-exposure and insufficient development. Prolonged exposure to a very weak light will in this case give the desired contrast. White round spots are the result of air bubbles during development: the paper should therefore not be soaked in water first, and the developer poured copiously and quickly on so as to ensure instant and complete immersion. Black stains are not infrequently the result of friction, if the paper be rubbed anyhow before development; gently rubbing with a pad of cotton wool dipped in methylated spirits will generally remove such stains. Greenish black prints and yellowish whites may both be caused by using too much bromide in the developer, which thus acts too slowly. As a general rule, development should not take longer than forty seconds. Yellowish brown stains are often due to the presence of a trace of hypo in the developer, or a dirty dish. Very small intense black or brown spots generally mean that the ingredients of the developer have not been entirely dissolved; it is very easy to get these with a hydroquinone developer, as small particles of hydroquinone remain undissolved for some time.

These little points, simple as they seem, will be found to account for most of the failures ordinarily met with in bromide work.—M. Lumière in *Le Photogramme*.

THE EXTENSION of a magazine hand camera may be lengthened sufficiently to enable objects at very close quarters to be photographed by very simple means. The door at the back is to be opened, and a sheet of stiff cardboard fitted in a light-tight manner in its place. On the inner side of this a sheath is glued to carry the plate. A focussing screen is necessary, and can be made of a similar piece of card with an opening in it and a piece of groundglass glued on. If the camera is fitted with a focussing scale it will prove useful; for instance, I find that when the pointer is at infinity the plate at the new position is in focus for an object at 2ft. distance.

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LANTERN SLIDE MAKING by reduction and by contact was the subject of a demonstration at the Shropshire Camera Club on the 28th ult. by Messrs. J. L. Della Porta and W. D. Haydon. In focussing when making reductions the use of a positive was recommended. In the demonstration a transparency of a page of *Photography* was used. Rough focus should first be got, then the transparency was to be removed, and equal illumination obtained, after which fine focus was to be obtained. In contact work it is desirable, the lecturer said, to use a special form of printing frame. An ordinary printing frame a size larger than the negative may be used, but there is always a risk of the light creeping round the edges of the lantern plate. With most slow plates normal exposure and developer produce a warm black tone. By doubling the exposure and diluting the developer with an equal bulk of water good brown tones may be obtained. The following method of masking was suggested. On a piece of white paper draw two black lines intersecting each other at right angles. Place the top of the slide against one of these lines so that the other shows through and serves as a guide in sticking on a strip of black paper. The slide is then turned round, and each side treated separately. If the paper is slightly damped it will stick to the gelatine.

Griffin's Folding Enlarging Apparatus.

The ever increasing number of hand cameras in use has led to a demand for some simple forms of enlarging apparatus. There are, of course, enlarging lanterns and enlarging cameras in almost endless numbers on the market, but what was wanted by a large section of hand camera workers was something of the fixed focus type, moderate in price, which would occupy but little space, and that would give fair-sized enlargements from quarter-plate or smaller sizes. We have from time to time chronicled the advent of various instruments brought out for the purpose, the latest to hand being the folding enlarging apparatus that Messrs. J. J. Griffin and Sons, of 20-26, Sardinia Street, Lincoln's Inn Fields, London, W.C., have placed on the market.

The apparatus fills the requirements admirably, it enlarges from quarter-plate to whole-plate, giving capital definition, folds up very compactly, as will be seen from the illustration (fig. 1), and is very moderate in price, selling, as it does, at 12s. 6d. In setting it up, the two stays B B are raised, and the box A lifted up and fixed in position by means of clips at the ends of the stays. The apparatus then presents the appearance shown in fig. 2. The negative is slipped into the groove at the smaller end and is secured by a clip. Film negatives are sandwiched between two thin sheets of glass supplied with the apparatus, and are fixed in position in the same way.

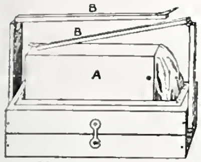

Fig. 1.

The larger end of the apparatus unslips when the hooks shown in the illustration are undone, and the sensitive paper, of which a supply is sent out with the enlarger, is placed beneath a sheet of clear glass. The lens is achromatic, and is fitted with a metal slide by which the exposure is made. We would suggest that this slide should be made a trifle stronger, as in our hands it had a tendency to double up, and although easily straightened again, might break down and lead to a print being spoiled. With this exception, the apparatus is as strongly made as it is well designed. Needless to say, although it is specially devised for making enlarged positives on Velox or bromide paper, it may be employed with equal success for making enlarged negatives.

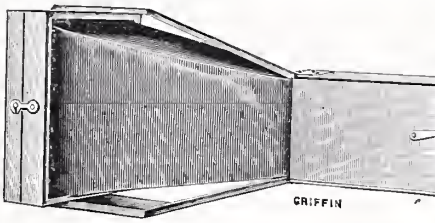

Fig. 2

We note that a gaslight attachment, in which there are incandescent gas mantles fitted in a parabolic reflector, is supplied for use with the enlarger at a cost of 10s. 6d. Bromide paper is also sent out in packets at sixpence and one shilling up to 12in. by 10in., the number of pieces varying, of course, with the size. This will be appreciated by those who desire to make one or two large prints at long intervals, during which a larger stock of paper might become spoiled.

Mr. F. C. Whittam, of School House, Pudsey, has been appointed honorary secretary of the Pudsey and District Photographic Society in place of Mr. Herbert A. Walker.

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The exhibition of the Hull Photographic Society will be held from the 2nd to the 5th of December. Entry forms and information required may be obtained from the honorary secretary, Mr. A. E. Hindson, 6, Freehold Street, Hull.

× × × ×

An exhibition in Bradford. The Cartwright Memorial Hall, which has just been opened in Bradford, will be inaugurated by an art exhibition next spring, in which will be included a photographic section, arrangements for which have been left in the hands of Mr. Alexander Keighley.

× × × ×

The exhibition of the Wishaw and District Amateur Photographic Association will be held from December 30th to January 2nd. A gold championship medal is offered, and the judges will be Messrs. J. W. Eadie, Arch. Campbell, and J. B. McLachlan. The latest date for entries is December 14th, and forms may be had from the honorary secretaries, Messrs. T. Peat, 75, Hill Street, Wishaw, and R. Andrew, jun., Kirk Brae, Wishaw.

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At the annual general meeting of the Photographic Club on the 4th inst., Messrs. F. A. Bridge and H. Snowden Ward were re-elected trustees, and Messrs. A. L. Bell, G. E. Brown, G. Edey, E. W. Foxlee, A. Mackie, C. Wallis, G. Wynne, and J. W. Zahnsdorf were elected members of the committee. Librarian and curator, Hans Müller. Honorary secretary and treasurer, T. W. Derrington, 49, Princes Road, Wimbledon.

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At the Frome Photographic Society's exhibition the judges, Messrs. J. T. Ashby and C. Barrow Keene, made the following awards. In the open classes, silver medals were awarded to D. M. Filshed, A. Marshall, A. Paterson, H. R. Campion, and F. J. Mortimer. Bronze medals were won by W. E. Barton, H. W. Witcombe, F. A. Swaine, S. G. Kimber, J. B. Johnson, J. R Sandilands, H. R. Campion, G. E. Cleland, and T. G. Hibbert, while honourable mention was made of the works of S Thompson, F. J. Mortimer, A. Marshall, W. R. Lathbury, B. J. Mitchell, and P. W. Crane. In the members' classes bronze medals were awarded to G. Moore, B J Mitchell, and H. Howell, and honourable mention was made of the prints sent in by H. Howell, B. J. Mitchell, W. L. Watson. W. A. King, and H. E. Smith.

The Morley College Field Club, Waterloo Road, London, S.E., announces short elementary discourses for beginners in photography, by Percy Underwood, which will be given on Tuesday evenings at 8.30; admission free to Field Club members.

× × × ×

At the exhibition promoted by the Scottish Photographic Federation, which will be held in Perth from February 12th to 27th, 1904, there will be no awards. The selection will be in the hands of the council and office bearers of the federation, the Exhibition Committee being composed of Mr. Henry Coates (president), Mr. J. B. Maclachlan (secretary), Mr. Alexander Mackenzie (exhibition secretary), and Messrs. J. W. Eadie and Archibald Campbell.

× × × ×

A demonstration on enlarging was given by Mr. A. R. Hogg at the Belfast Y.M.C.A. Camera Club on the 2nd inst. He said that the simplest method was by using an ordinary camera in a darkened room, light being only allowed to enter through the negative. In the winter time the enlarging lantern and artificial light is better on account of the regularity of the exposures. He said that clouds might be printed in either by shielding the landscape part of the print after exposure, and making a second exposure from the cloud negative after both exposures had been given, or by developing the landscape portion, and then adding the sky by a second exposure on the wet print.

× × × ×

Those who are dissatisfied with the ordinary—not to mention the extraordinary—methods in vogue for obtaining that quality which, by photographers at least, is termed indiscriminately breadth, fuzziness, softness, or diffusion, may like to try a plan which is described in the current *Photo Beacon.* It is in reality only a simplification of methods that have been recommended often enough, but is simple for those who use dark slides with drawout celluloid or vulcanite shutters. A piece of clean matt celluloid is taken, and from it is cut a rectangle a little smaller than the shutter of the dark slide in use. A spare shutter having been taken an opening in its centre is cut, leaving a margin all round of not more than half an inch. Upon this frame, as it were, the mat celluloid is cemented down. When ready to make an exposure the ordinary shutter of the slide is withdrawn, and in its place is put the one on which the celluloid is mounted, and the exposure made through it.

"The time has come, the Walrus said, to talk of many things."

SOME months ago I drew attention to the divertissements of the prospectus of a Russian photographic exhibition. There has now reached me a somewhat similar document relating to an "International Competition of Photographic Lantern Slides," which "will be put up in Kiev, Russia." Evidently in such a matter the Russians are advocates of the policy of the open door, for to the competition "will be admitted all lantern slides made by anybody." Neither is there any limit as to "the number of pieces sent in by one person," but if the number is less than six "they are considered as sent in *hors de concours*." If the slides are not claimed by the authors they are considered "as offered up to the society." There is quite an idea of sacrifice about this.

* * *

The prizes are certainly sufficiently tempting to attract into Russia "all slides made by anybody"; yea, and more also. There are unlimited diplomas, but none of your paltry medals, plaques, or buttons. The first prize is—"a golden palm branch." Fancy that. A golden palm branch! How glorious it sounds. A golden—half a minute. I beg pardon "A golden (gilded) palm branch."

* * *

Ahem!

* * *

The jury who will decide who is to be the proud recipient of the tin bough is composed of a professor of painting, an academician of painting, two common or garden artists, and an artist-photographer. These, it seems, are the real thing; not gilded. I should like to publish their names but some people misunderstand such language, and are led to cast aspersions on a blameless paper.

* * *

But I cannot forbear to give the name of the president, because it is one of the most melodious and expressive words I have seen these many moons. I have read several descriptions of the climate of Russia—the land of the edible candle, the knout, the sledge-pursuing wolf, and the ice palace. But no description has ever been so complete and realistic as that conveyed by the president's name. Hearken. Shtshookin.

* * *

Amelia, please fetch me from the chemist's six large bottles of paregoric and a hundredweight of cough lozenges. Shtshookin!!

* * *

And now, dear readers, hunt out your best slides, and may you all win the leaden tree-trunk.

* * *

There was a recent advertisement in this paper for several thousand waste negatives. If the advertiser had only consulted me on the matter first he might have saved the price of the ad. Even now I can let him have all he wants if he will send some pantechnicons along.

* * *

There are some kinds of book illustrations that can be better rendered by photographers than by even our gifted friends the black-and-white artists. There are other kinds that cannot; and then our gifted friends afore-mentioned point to the photographic attempts with a finger that radiates contempt from every knuckle. Moreover, they shoot out the lip of scorn, and utter bitter words of derision. Likewise they laugh, Ha, ha!

* * *

Let us not despair. The camera, in skilful hands, is capable of results quite as false as the performances of the best of artists. What the photographer should do is to take certain subjects and incidents and attempt to illustrate them photographically. He should set himself problems. For example, try a costume study to illustrate the well-known line—

"Man, clothed in a little brief authority."

Here is a fine subject for the trick photographer—

"The sheeted dead did squeak and gibber in the streets
of Rome."

Any back street in a slum will do for Rome, and the sheeted spooks are easy.

* * *

Or, take a passage from one of Mary Ann's favourite "Liarettes" and try to illustrate that. As thus—"Grasping the burly villain round the waist with one slim white hand, Algernon brandished him lightly aloft, and then with a graceful sweep of his arm hurled him far forth from the dizzy summit of the beetling cliff into the seething waves below. (See illustration.)"

* * *

Then there is a whole collection of familiar incidents that could be effectively rendered by the patient photographic faker. He held his head proudly aloft. She dropped her eyes to the ground as he flung his noble heart at her feet. Fire flashed from his eyes. He was beside himself. The room whirled round them. (Waggle the camera about while taking the room interior, and stick the figures on the print afterwards.) He had completely lost his head. His piteous glance melted her to tears. (Heat the female part of the negative till the emulsion begins to run.)

* * *

These are but hasty suggestions, but they will serve to indicate lines which, if carefully followed, would lead to the ultimate knocking of our friend the artist into the proverbial cocked hat.

* * *

That, too, would make a good subject for the camera.

* * *

I have been gleaning some useful information from a weekly paper about the photographic portrayal of certain celebrities, and am told that to photograph the emperors of China and Japan is a matter of life and death. This certainly means that it is a matter of death without the option.

* * *

Abdul the Dam—beg pardon, Abdul Hamid, the great and good Sultan of Turkey, has never faced the camera. No bad judge, either. He knows it would be the easiest thing in the world to disguise a Gatling gun as a camera.

* * *

The very word "snap-shot" makes him jump.

* * *

John Hare has only had his photograph taken once, and although it was done by Royal command, it is distinctly inferior to others he has had taken both before and since.

* * *

I may add that Hall Caine has sternly declined to be photographed since he discovered that his portraits were being palmed off as contemporary snap shots of Shakespeare.

THE WALRUS.

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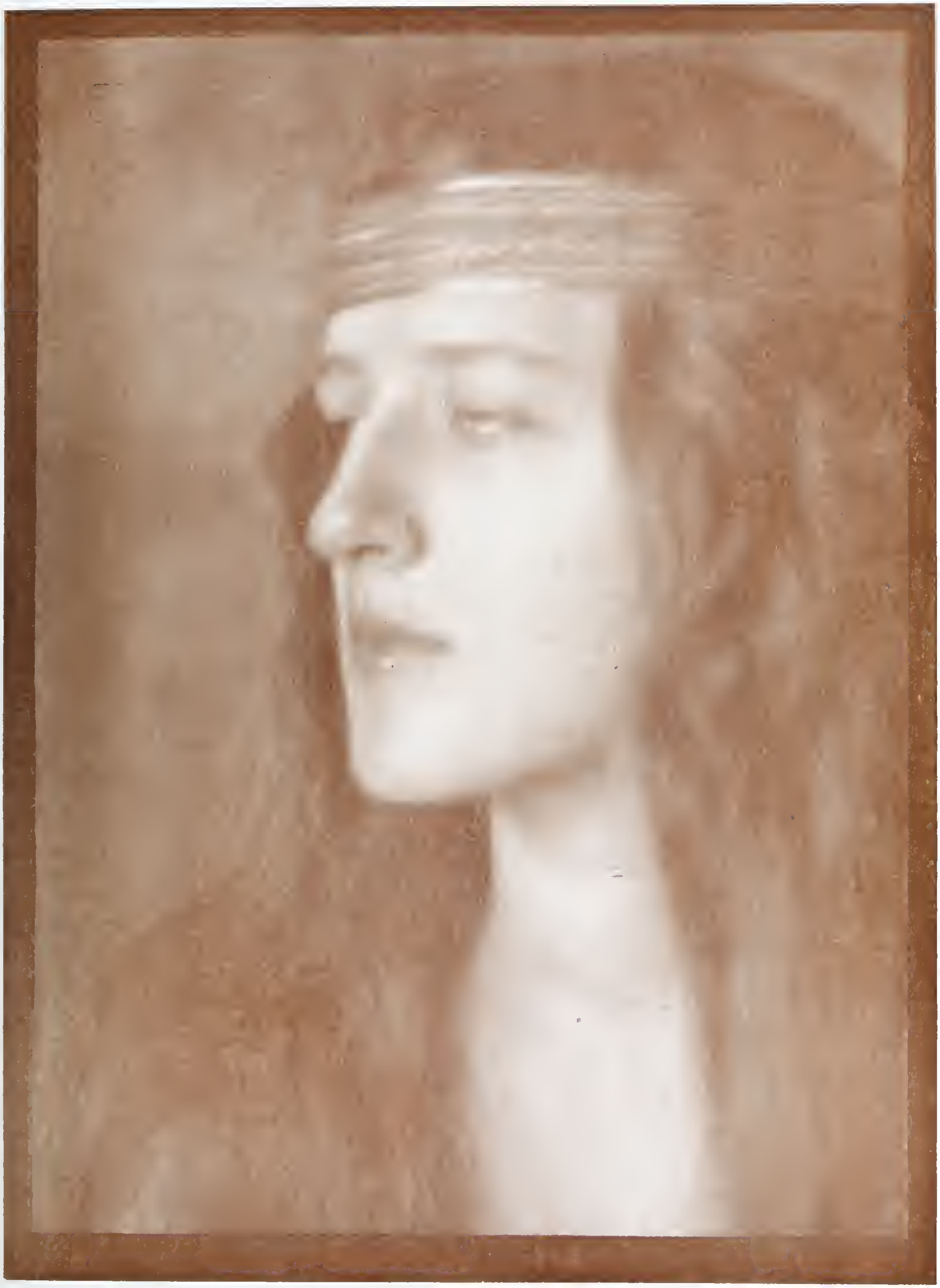
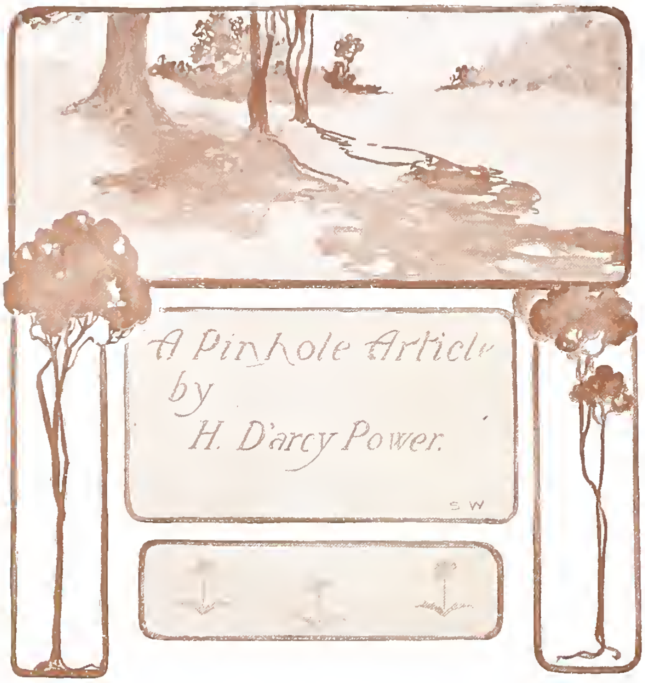


AN EASTERN PRINCESS. BY C. YARNALL ABBOTT.

("Pictures from the Two Exhibitions," No. 41; see page 458.)

FOREST GLADE & SUNSHINE



A Pinhole Article by H. D'arcy Power.

THERE is perhaps no aspect of nature that is more many sided than the forest. Its infinite variety of form and its ever changing mood are a constant challenge to the poet and the artist. Take the solemn silence of a great pine forest, with its endless reduplication of simple forms, its floor of needles, invaried but restful in its broad expanse, and compare this with a wood of oak, of elm, and of birch—with its little flower-decked clearings, its buzz of insect life, its glints of sunshine, and the song of birds. Not only is there this essential difference, but the diurnal variations are startling in their variety and intensity.

I was standing recently amidst a remarkable group of weird and twisted oaks. A soft, sunless light filtered through the canopy of green, and bathed alike the straight shafts of the pines and the fantastic groin work of the oaks, so that together they gave not only the appearance but the very air and sentiment of the solemn Gothic fane. And yet while I was vainly trying to catch on the plate that chastened beauty, a shaft of sunlight broke through a rift in the clouds and my cathedral was vanished and gone. The twisted boughs caught the patches of living gold at a thousand angles, the light darted hither and thither, relieved by shadows, darker by contrast. The grove was like a Christmas tree, gaudy with jewels, and I then knew why it was called the "Fairy Oaks."

These entrancing transitions are a wonder, and often a despair. They call for plates, plates, plates, and when we have the product, an adequate realisation of our failure fills the waste basket. I know well that many workers have succeeded in giving us beautiful renderings of such scenes, but taken as a whole, successes are only occasional.

Especially is this the case in the renderings of sunshine, and it is just these sunlit vistas with gold on trunk and spray that are so attractive. The average photograph of such scenes is usually a distracting assemblage of high lights, massed here, scattered there, but omnipresent and confusing, destroying all breadth and giving some of the form, but none of the spirit, of the original.

The most important cause of this is that the curved surfaces of leaves and twigs act as so many mirrors, each shooting a tiny beam of strong light on the lens. As such beams do not come from the whole leaf, but only a small surface of it, they produce on the plate nothing but a detached spot of light. Secondly, the chief charm of a sunlit forest is not in the reflected light, but in that transmitted through the leaves, and just because of their beautiful emerald colour, the plate, insensitive to green, takes no record of them. By thus recording what is not wanted and not recording what is most lovely, we are left with an entirely false scheme of lighting. Thirdly, the gamut of tones is very long in the woods. From the deep shadows in the brush and beneath dark and closely placed trunks, to the high lights in a sunlit leaf or flower, we have every possible gradation. To deal with these conditions adequately requires great care and judgment, and the best we can do is a compromise.

Take first the question of scattered reflected lights.

These, of course, are most pronounced when the sun is shining. In the suffused light of a cloudy day they cause little trouble, and though under such conditions the forest may seem silent and sombre, it is still capable of yielding charming pictures. Differences of local colour show up to much better advantage, and just as an overlighted picture that fails to impress may reveal unexpected beauty in the shade, so may we find beauties under a cloudy sky that disappear in the glare of the sun.

But sunlight, while it destroys soft gradation, has beauties of its own that demand the best of our efforts. The scattered high lights that are its inevitable accompaniment must be eliminated. If our pictures have been made with the lens we can remove them from either positive or negative. A platinum print can be spotted with a little lampblack mixed with Payne's grey, until these distracting specks of white paper shall have acquired their proper tone, and the general gradation be such as an artist would give it. Or, taking such a spotted print as a guide, the offensive high lights may be eliminated from the negative by the retouching knife. Furthermore, the spotting effect may be largely eliminated by using the pinhole in place of the lens.

The pinhole, especially in the larger sizes, gives a much more diffused image than the lens, and merges these annoying points of light into one another. The result is a rendering of sunshine such as the lens can never give. I have recently repeatedly taken woods and trees by both the lens and the pinhole under these conditions, and in every instance the latter has given the truer and more satisfactory rendering.

While speaking of the rendering of sunshine, I cannot emphasise too strongly the importance of selecting subjects in which the sunlit parts are broadly massed against a body of shade—otherwise disappointment will certainly follow.

The second difficulty, namely, the representation of light passing through a woof of green leaves, can be overcome by the use of plates specially sensitised for green, but even this will not succeed unless backed by the use of a pretty dark colour screen. I have not tried it, but it appears reasonable to believe that a green filter would give the best results.

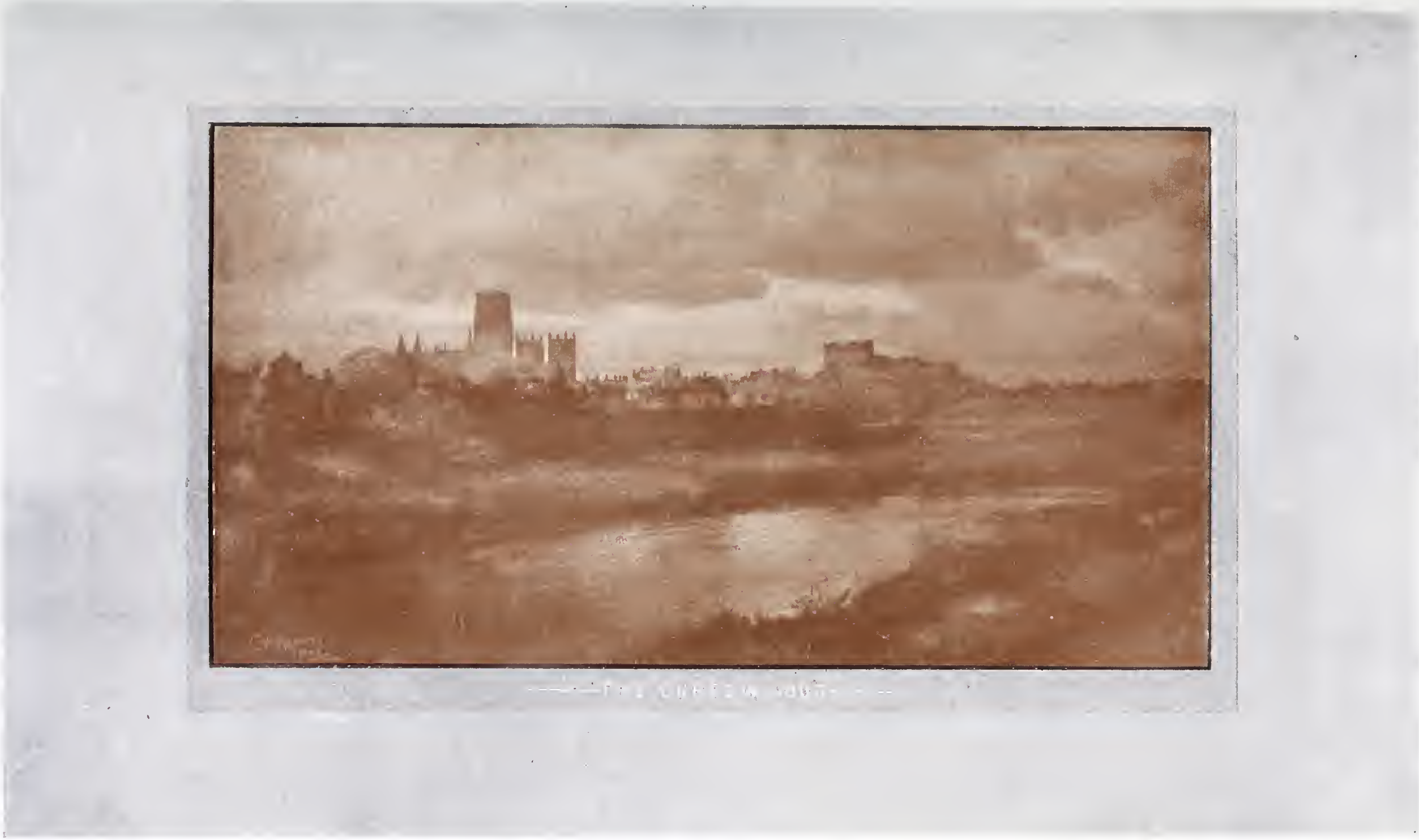
Lastly, the long gamut of tones to be represented in these scenes requires very careful exposure. Nearly all the colours are non-actinic, and in using a light meter it is well to consider the subject value as at least three times the normal. Over-exposure is a much smaller evil than under-exposure, and if as a result we lose detail in the high lights, it may often be recovered by local reduction. I would, therefore, summarise by saying:

First—Use a pinhole, a large size by preference.

Second—Choose subjects with broad effects.

Third—Use orthochromatic plates and a colour screen.

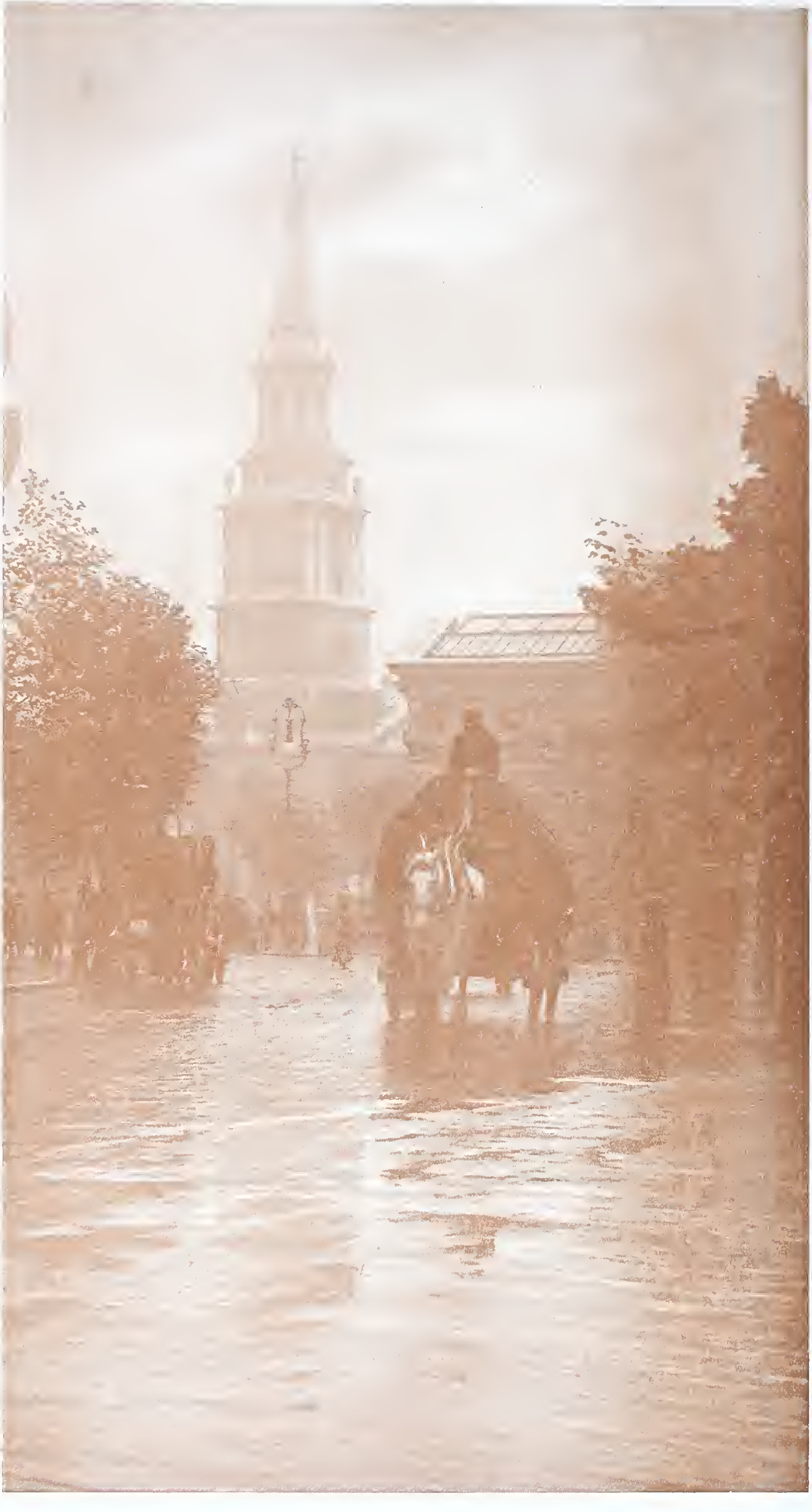
Fourth—Expose for the shadows, and locally reduce the high lights.—*Camera Craft.*



THE CURFEW HOUR

BY C. H. HEWITT.

(" *Pictures from the Two Exhibitions,*" *No. 42, see page 458.*)



A SUMMER SHOWER, ST. MARTIN'S IN THE FIELDS. BY F. W. JACKSON

("*Pictures from the Two Exhibitions*," *No. 43, see page 458.*)

LANTERN SLIDE MAKING

BY G. T. HARRIS.

CHAPTER III.

Producing Lantern Slides on Commercial Plates—Various Colours in Slides—The Production of Black Colours—Developers for such—Acid Fixing Bath—Developers for Warm Colours.

At the present time nearly the whole of the lantern slides produced by the vast army of lantern slide workers are made on commercial lantern plates. Their convenience and excellence have won for them an impregnable position in public favour, which is not without justification.

The colours obtained upon the ordinary commercial plate range from an admirable black through browns to red, and even purple, should anyone have a taste for claret-coloured lantern slides. The classification of colours obtainable on a gelatine plate has been extended *ad nauseam*, and is often merely an individual statement of accidental results, the "rich sepia" of one man being the "warm brown" of another, the ingenuity shown in framing formulæ to obtain these results having served to encumber the pages of photographic literature with a mass of recipes utterly bewildering to the uninitiated. The colours most generally useful are black, warm black, brown, and warm brown.

To obtain any of these colours with certainty and to repeat the exact colour obtained upon one occasion at any subsequent time is not easy, and the slide maker will find that he is forced more or less to compromise by accepting considerable departures from any standard colour. Each worker, therefore, must adjust the developer to his own personal equation and method of working. The formulæ given in this chapter will be found to give the colour described with tolerable exactitude, but as the worker in lantern slide operations progresses he will most certainly modify any formula that comes into his hands to suit his own requirements.

Before proceeding to a detailed account of the development of gelatine lantern plates, it may be well to mention that colour in lantern slide work, more especially when made on gelatine plates, is almost entirely a matter of exposure followed by suitably-adjusted development. Any reducing agent—hydrokinone, metol, eikonogen, etc.—will give either warm or black-coloured slides if modified to suit the exposure. Short exposures in a strong light, followed by quick development, tend to the production of black colours, while long exposures, coupled with protracted development, result in colours more or less red. If, therefore, the beginner bears this fact in mind, he will be able to make a rational application of any developer.

In connection with this point, it may be interesting to give the results of some experiments made by H. Liesegang, and published in the *Photographische Chronik*:

Colour.	Proportional exposure.	Concentration of developer.
Greenish black ...	1	1 to 5
Olive black	2	1 to 5
Sepia	3	1 to 10
Brown	4	1 to 10
Red brown	6	1 to 20
Yellowish brown ...	8	1 to 20
Red	5	1 to 30
Reddish	10	1 to 30
Yellow	20	1 to 40

Although these results were derived from a series of experiments on the development of silver chloride, they agree very closely with what the lantern slide worker finds to be the case with gelatine lantern plates, which, in fact, are largely composed of silver chloride.

The production of black colours in lantern slides calls for no special skill on the part of the worker; so long as he uses a clean, quick working developer and gives a short exposure, the rest is easy. In camera reduction, when working for black colours, the light outside, if daylight methods are used, must be sufficiently good to give a well-exposed plate with six to ten seconds' exposure; and when "contact" exposures are made, the illuminant is better fitted for the production of black colours if it takes the form of an incandescent gas mantle. With such a light, and a negative of medium density held at a distance of about eighteen inches from it, the exposure need not exceed ten seconds. Any of the modern reducing agents will give black colours, but each one has a particular shade of black peculiar to itself. Thus, hydrokinone gives a black that often assumes a greenish hue, especially with caustic alkalies; metol is characterised by its bluish-black; and eikonogen has a very pleasing olive black. Amidol, in my opinion, gives the nearest approach to a pure black of any developer, though it is run very close by edinol.

It will be seen from a consideration of the above peculiarities what a considerable undertaking it would be to give formulæ embracing all the recently introduced developers, with their varying shades of colours. I shall content myself with giving here several simple formulæ, which are the sublimated results of many months' experiment among modern developers. Once the lantern slide worker has passed through his apprenticeship, he will find the field of modern developers extensive enough to afford him many months' work, and the results will be sufficiently varied to suit the most exacting.

AMIDOL DEVELOPER (for black).

Amidol	20	grains
Sodium sulphite	240	,,
Potassium bromide ...	10	,,
Water	10	ounces

Development is very rapid, but it is necessary to give a seemingly excessive opacity to compensate for the loss in fixing. Any "forcing" of development through under-exposure is to be carefully avoided in lantern slide work. The development should bring out the detail steadily through the various gradations, until the extreme high lights appear, and these should remain perfectly clear while the slide is acquiring sufficient opacity.

When development is judged complete, the slide is quickly placed without any washing in an acid fixing bath. It is a mistake to submit lantern slides to a washing process between development and fixing, as during the process the slide acquires sufficient density to cover the highest lights, that have been so zealously guarded. I am aware that many hands have been uplifted against the use of an acid fixing bath, and probably will continue to be raised until the end of the tale. My own experience is absolutely in its favour, and I have constantly employed it in the form given below for the last fourteen or fifteen years. For lantern slide work, I particularly recommend its employment. Fading, marks of any and every description, have at various times been attributed to its employment, but in my fifteen years' experience I have never found either a negative or lantern slide fade, and I see no reason, if properly made, for an acid fixing bath to cause fading.

The bath referred to is prepared by dissolving in ten ounces of water one ounce of sodium bisulphite; in another ten ounces of water four ounces of sodium hyposulphite are dissolved; and then, while stirring, the bisulphite solution is poured slowly into the soda solution. When mixed, the formula will stand thus:

Sodium hyposulphite ...	4	ounces
Sodium bisulphite	1	ounce
Water	20	ounces

On removing the slide from the fixing bath and examining it before a piece of opal or ground-glass, it should appear "crisp," without any appearance of "inkiness" in the shadows, and when laid upon a sheet of white paper the extreme high lights should have the appearance of being bare glass.

AMIDOL DEVELOPER (for warm black).

Amidol	20	grains
Sodium sulphite	240	,,
Ammonium carbonate ...	20	,,
Potassium bromide ...	20	,,
Water	10	ounces

The exposure for warm black colours when using the above developer will be about double the exposure required for black, and development will be rather slower; it should not be carried so far, however.

When the production of warm colours is attempted with gelatine plates, it is better to adopt pyrogallol as the developer. Not that warm colours cannot be obtained with the modern reducing agents, but "pyro" and ammonia undoubtedly produce them with greater facility than do the others. The subjoined formula has given in my hands very good browns with about five times the exposure needful for blacks. With some plates, to produce brown colours, it may be necessary to add more bromide.

PYROGALLOL DEVELOPER (for brown).

A.	Pyrogallol	30	grains
	Sodium sulphite	120	,,
	Citric acid	3	,,
	Water	10	ounces
B.	Ammonium bromide ...	40	grains
	Liquor ammonia (.880) ...	30	minims
	Water	10	ounces

Equal parts of each are taken to develop.

It will be noticed when developing for warm colours that the image develops in a manner very different from a black-coloured image. With black images the gradations appear crisply defined *on* the surface of the film, but with warm-coloured images the picture seems buried *in* the film, and is only seen when examining the plate by transmitted light. This appearance is rather puzzling to the novice, and misleads him into giving greater density to the plate than is desirable. Only experience can enable him to judge when correct opacity has been reached, but he will find, where warm colours are in question, that a very small amount of *apparent* density will prove on fixing to have been ample.

The development of lantern plates in the production of warm colours is oftentimes a tedious operation, requiring perhaps ten or fifteen minutes, and there seems no way of curtailing the time and retaining at the same time the quality of image. Loss of time may be prevented by using a grooved tank and leaving the plates to develop while other exposures are being made. Development is so slow that over-development need never be feared. The temperature of the developer should never be below 65° F.

Should warmer colours than those given by the above developer be required, they may be obtained by adding to each ounce of the mixed developer twenty or thirty minims of a ten per cent. solution of ammonium carbonate. It has been stated, but not on sufficiently good authority, that the use of the carbonate causes fading. In place of adding the carbonate as a ten per cent. solution, it may be combined with the developer in bulk, in which case the following formula is a convenient one:

PYROGALLOL DEVELOPER (for warm brown).

A.	Pyrogallol	20	grains
	Ammonium bromide ...	20	,,
	Sodium sulphite	120	,,
	Sulphuric acid	25	minims
	Water	10	ounces
B.	Liquor ammonia (.880) ...	100	minims
	Ammonium carbonate ...	20	grains
	Water	10	ounces

Equal parts of each are taken to develop.

The formulæ given in this chapter will cover the whole field of the development of gelatine lantern slides. Success in lantern slide work is due not so much to any especial formula as to continued practice on the part of the operator. The production of first-class slides as regards crispness, colour, and exact density is not, in my experience, too easy of attainment, nor does there appear to be any "royal road" to such an end.

AT THE GREAT YARMOUTH AND DISTRICT CAMERA CLUB landscape competition there were numerous entries, the first prize being awarded to Charles Rumbold, and the second to Miss Burton.

PHOTOGRAPHY, No. 785, Vol. XVI.

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NOTICE TO CORRESPONDENTS.

All letters, advertisements, etc., must reach the office on Friday morning to ensure being dealt with in the issue for the next week. In cases of great urgency, letters delivered up to the first post on Tuesday morning may be in time to receive attention, but this cannot be guaranteed.

Communications for the Editor should be addressed, The Editor of *Photography*, 3, St. Bride Street, London, E.C.

In all publishing matters, letters, orders, etc., should be addressed, ILIFFE & SONS LIMITED, 3, St. Bride Street, London, E.C.

Advertisement copy and orders, and these only, should be sent to the printing works. They should be addressed ILIFFE & SONS LIMITED, Coventry.

LEADER

A Word in—or out of—Season.

The past few days, from the point of view of the landscape worker, have been singularly favourable. November is a month which may not be popular with those whose occupations confine them to the streets or buildings of a big and smoky city; but those who are fortunate enough to get a day or two in the open country at this time of year know well and appreciate the charm which hangs around a true November day.

The leaves are almost all gone, yet they linger here and there in just a few more sheltered corners. Rarely have we seen a more beautiful bit of colour than one day last week, when, turning the corner of a fine old house, on the grass in front of it we saw one large and shapely tree, covered with autumnal-tinted foliage, which shone like copper in the setting sun. It was one of those subjects that seem to exist on purpose to emphasise as fully as possible the provoking character of the limitations which surround photography. Three exposures were made upon the tree—one on an ordinary plate, one on a colour-corrected plate with a deep yellow screen, and one on an orthochromatic film. The ordinary plate gave the most pictorially agreeable print, with dark foliage standing out against a light sky; the film yielded a result not very dissimilar; while the colour-corrected plate and screen gave what was doubtless a true rendering in monochrome, but the sky and the brilliant foliage were far too similar in tone for the print to be pleasing.

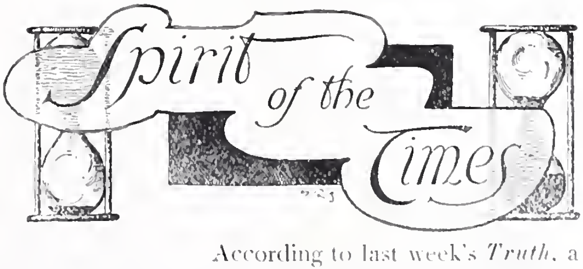
However, we did not set out to write about the photography of foliage, autumnal or otherwise, for there will be little indeed of it by the time this reaches our readers; we wished rather to draw attention to the opportunities which November offers for landscape work—opportunities in some respects greater than those at any other time of the year.

It is unfortunate that society outings have usually ceased for the winter some two or three months before, but the short afternoons no doubt are responsible for this.

It is in two respects that November is so favourable. The first and foremost is in the atmospheric conditions. On a typical November day, we get a soft, sunny light, well diffused, with very few dark shadows, and these not very dark. At a little distance from the camera the outlines begin to be softened by a veil of mist, which increases by degrees until the distance photographs on the plate, not with the unearthly sharpness of the prints in railway carriages, but with a real sense of distance and atmosphere, as it appears to the eye. In decidedly foggy weather the mist is too pronounced in the photograph, but on a fair November morning it will be found to be almost exactly what the photographer would desire—not obliterating his distance entirely, but throwing it back and separating out the different planes in the picture as they should be rather than as they, too often, are.

The other valuable quality about our typical November day is the absence of wind. The month, as a rule, is one of the stillest, although when it is windy it generally blows a gale. November in the woods is often almost ideal from the photographic standpoint, every twig motionless, and even the few leaves are without a quiver to blur the plate. Within the last few days we have been able to secure a number of pinhole pictures of woodland scenery, thanks to this perfect stillness, which in this respect would have been difficult even on a calm summer day.

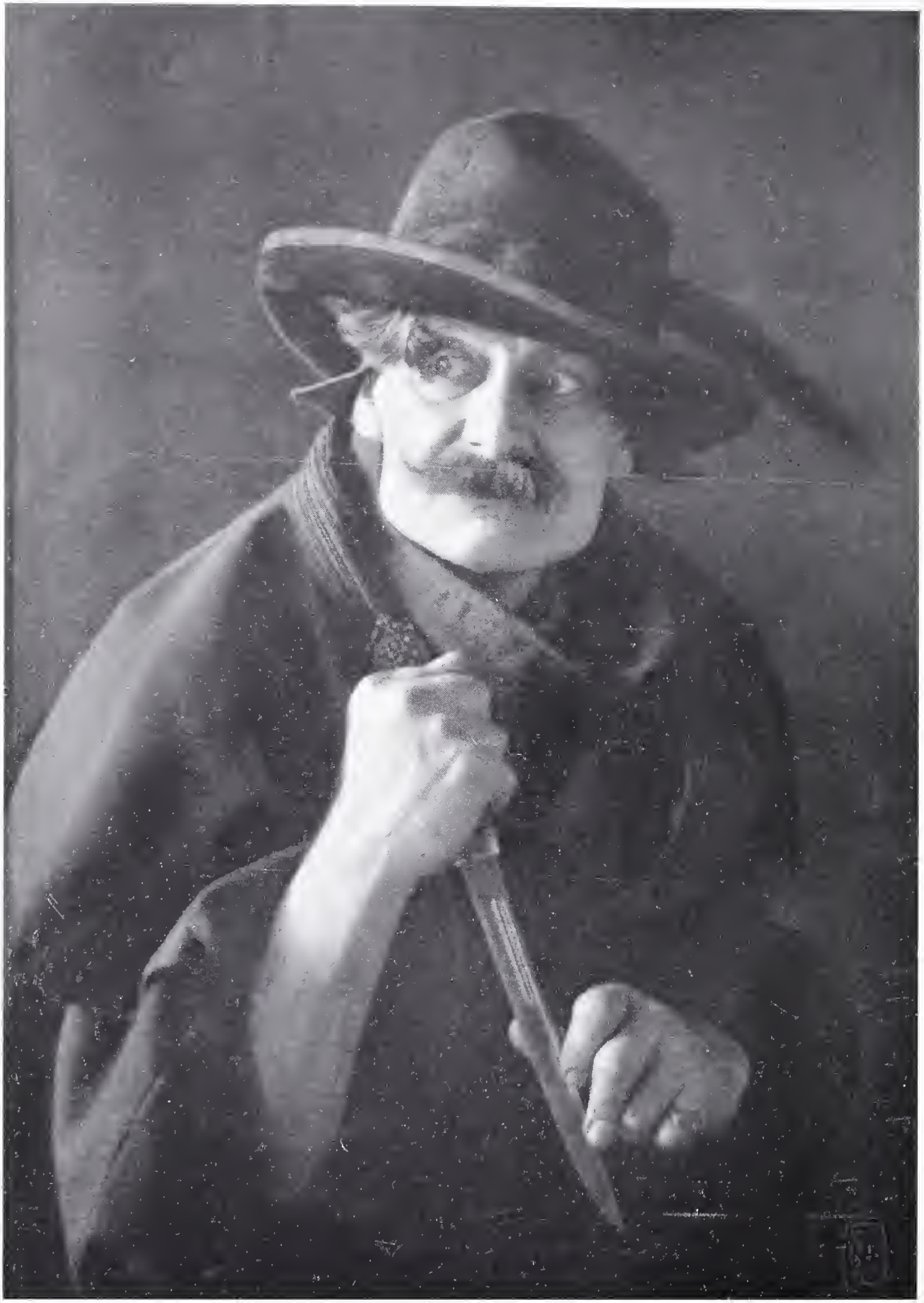
In referring to the typical November day, it is quite possible that we have been led away by recent experiences and by some mental image, derived we know not whence, and that the glorious uncertainty of the English climate may decide that such weather shall henceforth cease to characterise the eleventh month of the year. If it be so, we nevertheless trust that our little homily will not be thrown away, but that our readers who are landscapists will seize the opportunity afforded by a November day, whether it come in early spring or in the sultry August.



Spirit of the Times

PHOTOGRAPHY IN HOLYROOD.

According to last week's *Truth*, a party of visitors to the historic palace at Holyrood, on attempting to take some photographs there were promptly ordered to desist from doing so. When an explanation was requested, they were informed that the exclusive right of photographing there had been let to a firm of professional photographers! The interest of Holyrood is a national



VILLAINY. BY F. H. EVANS.

("*Pictures from the Two Exhibitions,*" No. 44, see page 458.

one, and it is surely a scandal and a disgrace that it should be trafficked in this unseemly manner. When will those who are in authority learn common decency in such matters? This is not an example of an exclusively British failing either. The German Government, at the close of the Franco-Prussian war, erected a fine monument on the Rhine, near Rudesheim, to the heroes of the Fatherland who were slain in 1870. The monument is a noble one, but it sadly detracts from its dignity to learn that the authorities peddled away the permission to photograph it, and actually put men round it to see that none of the relatives or admirers of the men whose heroism it commemorates took a surreptitious snap shot at it. In the Holyrood case, as Edinburgh possesses a strong, active, and ably managed photographic society, we would suggest that the restrictions upon non-commercial photography at Holyrood might enjoy its attention. In matters of this sort there is nothing like local action.

* * *

NEGATIVES BROKEN IN TRANSIT.

The action brought by Mr. W. J. Anckorn against the Caledonian and North British Railways—a note of which will be found on another page—raises a question which railway companies are never averse from advancing in reply to a claim for damages. Mr. Anckorn's case is still *sub judice*, and into its merits, of course, we do not propose to enquire at this stage. But on the general subject of the sending of irreplaceable negatives by rail, it is well to point out that their value should be declared before despatch. Nothing is harder than to convince a railway company that a photographic picture the models of which are still living cannot be replaced at the expenditure of a few minutes' time and the cost of a fresh plate. We might point out in this connection that one of the methods by which railway companies endeavour to screen themselves from the payment of damages is systematic and preposterous delay. We had a claim against one of them ourselves some five years ago for a broken negative, which the company dragged on over nearly two years, and when the amount was settled the extraction of the money took a matter of six months. Such organised procrastination pays them, no doubt, and in the multiplicity of claims a certain number are abandoned from forgetfulness and a sense of disproportion between the amount and the worry involved in its collection. Still, at its worst, the railways are infinitely better than the Post-office, which may be said never to pay a claim at all, redress in the case of this Government department being hopeless.

* * *

DIFFERENCES BETWEEN BROMIDE PAPERS.

The influence of the composition of a developer on the development of bromide papers was the subject of a recent communication by Commandant Houdaille to the Société Française de Photographie. The author tells how very difficult it is to deduce very precise data from the results of general experiments, as different kinds of paper, *i.e.*, different clases of texture and tint, give rise to such widely varying results. It is, of course, obvious that unless one particular brand of paper be adhered to throughout the whole range of experiments, the results will be useless for comparative purposes, as a baryta substratum undoubtedly has an influence, as does one of starch also. We have had a good deal of experience lately on this very point, the growing popularity of the Blake Smith process of toning bromide prints having drawn particular attention to the widely different behaviour of different makes of paper in the same baths. Of course, in any process in which iodine was applied, the presence of a starchy coating might be expected to bring about different results, and the employment of an iron compound to give a tone to the paper has also betrayed itself. The lesson from Capt. Houdaille's lecture is that we should be careful how we apply conclusions drawn from the behaviour under certain conditions of one brand of paper to paper of a totally different make.

FORTHCOMING EXHIBITIONS

SOCIETY.	OPENS.	ENTRIES CLOSE.	SECRETARY.
Glasgow E.A.P.S.	November 28	November 23	A Walker, 80, Garthland Drive, Dennistoun, Glasgow.
Hove P.S.	December 2	November 23	A. R. Sargeant, 55, The Drive, Hove.
Hull P.S.	December 2	—	W. Gilleard, 57, Clumber Street, Hull.
Dalziel Bazaar	December 10	November 28	James Dunlop, Myrtle Bank, Motherwell, N.B.
Ilford Church Bazaar	December 10	November 30	J. O. Watson, 164, Wellesley Road, Ilford.
Southampton P.S.	December 11	December 2	S. G. Kimber, Oakdene, Highfields, Southampton.
Chicago S A P.	December 29	December 15	Society of Amateur Photographers, The Art Institute, Chicago.
Wishaw and District	December 30	December 14	T. Peat, 75, Hill Street, Wishaw.
Liverpool A.P.S. Slides	—	January 30	E. Simnett, Percy Buildings, Eberle Street, Liverpool.
Sefton Park P.S.	January 5	—	H. E. Cubley, 3 Langdale Road, Liverpool.
Corn Exchange A.P.S.	January 13	December 31	J. H. Mitchener, 1, Seething Lane, E.C.
Burnley C.C.	January 21	—	B Slater, Wood Nook, Burnley
North West London P.S.	February 11	January 28	J. S. Fairfoull, 13, Addison Road, Walthamstow.
Scottish National	February 13	—	John B. Maclachlan, *Dundee Courier*, Blairgowrie.
Birmingham P.S.	February 27	February 22	L. Lloyd, Hollies, Church Road, Moseley, Birmingham.
Cripplegate P.S.	February 29	—	G. H. Depledge, 17 Hazeldene Road, Goodmayes, Chadwell, Essex
South London P.S.	March 5	February 20	W. C. Marshall, 41, Glendon Road, Lee, S.E.
Brechin P.A.	March 5	February 13	J. Kirk, 1, Infirmary Street, Brechin.
Nottingham C.C	March 9	—	Arthur Black, 9, Bowers Avenue, Nottingham.
Brentford P.S.	March 15	March 3	F. H. Read, Clifden Road, Brentford.
Northern	March 25	March 11	C. F. Inston, 25, South John Street, Liverpool.
Cape Town P.S.	April 4	March 13	A. J. Fuller, P.O Box 750, Cape Town.
Croydon C.C.	April 6	—	H. M. Bennett, Alipore, Duppas Hill, Croydon.

Looking Both Ways

Amongst the features of last weeks issue of "Photography" were

Restrictions on photography.
The kinematograph and the microscope.
Failures with bromide papers.
A simple mechanical flashlamp.
The Southsea Exhibition reviewed.
The sulphur toning of bromide prints.
Fluorescence and absorption.
The use of hypo for extinguishing fires.

Next week amongst other matters we hope to deal with

Is silver printing by artificial light practical?
The new studio of Miss Edmonds.
"The Labourer is worthy of his hire."
On flashlight portraiture.
The pictorial postcard.
Does art pay?
And several other matters of special interest to professional photographers.

The Value of a Negative. Anckorn v. Caledonian Railway, etc.

An action in the Arbroath Sheriff Court for a negative broken in transit by rail.

IN this case, judgment in which is reserved, Mr. W. J. Anckorn, the well-known photographer of West Port, Arbroath, sued the Caledonian and North British Railway Companies as owners of the Dundee and Arbroath Joint Railway for payment of £11—£10 for the breaking of a photographic negative, and £1 as a fee which he was to receive for use of it from a firm in London. The pursuer was represented by Mr. David Littlejohn, solicitor, while Mr. William Robertson, solicitor, appeared for the defender.

Mr. Robertson raised a preliminary objection to the relevancy of the complaint on the ground that there was no specific description of the negative. The value of a negative depended entirely upon the nature and subject. In this particular case the negative might have been that of a dog, a cat, a monkey, or a pair of old boots—(laughter)—in which case the value would not be very great.

Sheriff Lee said the point raised by Mr. Robertson was a matter of proof.

Mr. Robertson pointed out that the defenders were not in a position to meet the claim, as the value of the negative had not been stated.

Mr. Littlejohn said the railway companies through their servants had made no enquiry as to the character of the negative.

Sheriff Lee said that, suppose the pursuer had specified that the negative was, say, of a storm at Arbroath Harbour, how would defenders meet the claim any better?

Mr. Robertson said if pursuers knew the value of the negative it would have been better to specify it in the summons.

Sheriff Lee said that could be done now.

Mr. Robertson consented to this being done, and in answer to a question, Mr. Littlejohn stated that the subject of the negative was entitled "Life's Young Dream."

Mr. Robertson said he had also an objection to take to the action on the merits. The defenders denied that the negative had been broken in their custody. Assuming even that it had been so, they pleaded that they were released of responsibility under the Carriers' Act, and they further pleaded that they were not liable for the £1 claim, which was in the nature of consequential damages.

Mr. Anckorn said he had made a special feature of taking photographic negatives for reproduction on postcards and otherwise for the last twenty years, and had been in the habit of sending such negatives to London for such purposes. On the 3rd August last he despatched two negatives to London, one of them being broken—namely, the one upon which the action was founded. He was always careful to warn the company's servants as to the nature of the goods which he despatched, and he believed that they quite understood on the occasion in question what they were carrying. On this particular occasion he got a note signed by the lad in the parcel office to the effect that the goods were being conveyed at the company's risk. He read over the note to the lad, who quite understood the import of it. There was no one else in the office at that time. The negative formed one of a series of six pictures, and the effect of its having been broken caused him to lose £1 per week. Witness gave instructions to the clerk to make the whole charges against the consignee, and not to make delivery until the charges were paid.

Cross examined: Was this negative an original picture?

Witness: Yes, made from a life study.

Mr. Robertson (examining the picture): It is an old man, a little boy, and a ship. What does it represent?

Witness: The old man is a sailor, and the boy is supposed to be dreaming whether he will be a sailor or not.

Mr. Robertson: Is this old man still alive?—No, he is dead.

Mr. Robertson: Is the boy still living?—Yes. So that he could be reproduced? No, he is too old now.

Mr. Robertson: What about the ship?—I cannot get the same picture of the ship or anything.

Mr. Robertson: Was this picture taken in your studio in Arbroath?—Yes. Continuing, witness said the value of the negative was really not £10 but £50. The name of the other negative was "My time is done."

Witness, continuing, said that there was a movable partition between the two negatives consisting of a cardboard box with corrugated cardboard. The box was carefully packed, and the negative in question was whole when it was placed in the box. He surmised that the box must have been thrown from the train on to the station platform.

Mr. Robertson suggested that the negative might have been broken in the warehouse of the consignee.

Witness: The consignees are a reliable firm, and if the negative had been broken in their premises they would have said so and paid for it.

Mr. Robertson: Did it never occur to you to insure the negative under the Carriers Act?—I told the Railway Company to make all the charges against the consignees so as to take the whole of the responsibility off my shoulders.

Mr. Littlejohn: Did none of the company's servants ever bring under your notice the question of insurance?—Never.

Evidence was then given by James Craig, James Whyte, and Charles Webster, parcel clerks. The lad Craig stated that pursuer did not inform him as to the contents of the box or as to the value of the contents. The box was forwarded at company's risk rate.

Whyte deponed that the box was carefully handled, and was marked "glass." Pursuer did not declare its value.

Mr Webster, the chief parcel clerk, said it was not the custom to ask parties forwarding parcels to insure them unless the value was declared to be over £10. In that case parcels would not be forwarded without insurance unless at owners' risk.

After hearing parties the Sheriff took the case to avizandum.—*Dundee Advertiser.*

The Edinburgh Exhibition.

Specially Reviewed for "Photography," by "An Occasional Contributor."

A COLD east wind blew through the streets of Edinburgh as I wended my way towards 30, South Castle Street, where is situated the home of the Edinburgh Photographic Society. The comfort of the rooms was therefore welcome. On entering we were met with a pleasing group of palm and fern plants that give the place a charm and refinement quite in keeping with the atmosphere of the surroundings. I seated myself on a chair until I grasped the general effect of the pictures, and of course curiosity made me turn to the catalogue to see to whom the judges had awarded the favours.

Rumour has had it for several years back that the society intended holding their annual show in some more suitable gallery. The large meeting room where the pictures are yearly hung does not make an ideal place, and the effort of the committee each year to crowd in from 250 to 300 exhibits does not improve matters. Rumours are long sometimes in being realised, but I think the council of this society should make a point to get up a really high class exhibition, say every three or four years. It must be admitted that for some years back there has been a gradual decline in the number of good pictures shown. Whether this is due or not to the system of awards I cannot say. This is somewhat on the lines of the R.P.S., that is, medals are placed at the discretion of the judges. The only difference is that the pictures are separated into two sections, one "open to all," and the other limited to members of the society. This year seven medals have been awarded in the open section, and five medals and two honourable mentions in the members'.

So far as the exhibition goes, it might as well be called a members' show, only eight or nine exhibitors hailing from South of the Tweed, and about a similar number who are not members living outside Edinburgh. The open section contains a number of very fine works, notably those by Mr. J. B. Johnston, who carries off two medals. It is interesting to note that the majority of medals awarded in the open section have been carried off by members.

Another point that strikes the outsider is that the more experienced members of the society have entered their pictures in the open class, leaving the members' section to younger and less practised workers, and thereby weakening it, so that in forming an opinion of the work of the Edinburgh Society it would not do to take the members' section as the criterion, as the standard is consequently low.

Space does not permit of criticising the pictures in detail, but mention must be made of one or two.

"Homeward," by J. B. Johnston, is a much better interpretation of an earlier picture. The scene is moorland, with a few sheep being driven home by their shepherd. It is boldly treated, and the whole effect is pleasing in the extreme.

There are not many figure studies exhibited after deducting the portrait work of the Edinburgh professionals, who always maintain a high level. Medals have been awarded to Fred. W. Hicks for a very fine rendering of a Breton fisher girl, and to Robert Forbes for a successful treatment of the somewhat hackneyed subject of an old lady standing in a doorway, the photographer being inside looking out. "The Morning after the Storm," by Mr. James Patrick, is, I understand, printed from three negatives—the sea from one, the wreck from another, and the sky from a third—and the whole printed in sepia carbon, the result being fairly satisfactory.

Architecture is but feebly represented, only two pictures of any merit gracing the walls; these two, however, are both very fine pieces of work.

The judges were Mr. Reginald Craigie, secretary of the Linked Ring; Mr. W. M. Warneuke, Glasgow; and Mr. Robert Noble, R.S.A., Edinburgh; their awards being as follows: Open section—Medals, H. Stewart Wallace, Edinburgh; J. B. Johnston (two), Edinburgh; Alex. Allan, Ratho Station; Fred. W. Hicks, South Norwood; Robert Forbes, Edinburgh; and James Patrick, Edinburgh. Members' Section—Medals, Professor Finlay, Aberdeen; Miss Margaret McLauchlan, A. P. Noble, R. M. Readdie, and G. M. Tyrrell. Honourable mentions, James A. Angus and Robert Thomson.

THE "TELEPHOT" of Vautier-Dufour and Scharp, which attracted attention at the Royal Photographic Society's exhibition, is supplied by Messrs. J. H. Dallmeyer, Ltd., who are agents for it, the lens used being specially constructed by them.

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"WILD NATURE'S WAYS," by R. Kearton, F.Z.S., illustrated by reproductions from photographs by Cherry and Richard Kearton, published by Cassell and Company at 10s. 6d., is the latest of the Kearton Brothers' contributions to the literature of natural history. The authors are noted for the courage and resourcefulness with which they overcome the dangers and difficulties inherent in photographing the shyest of birds. The book is all the more interesting from the descriptions given of the expedients adopted and the dangers encountered. The photographs not only serve their purpose of illustrating the text, but are technically perfect, no difficulty in obtaining them being allowed to serve as an excuse for the presentation of imperfect work. The photogravure that forms the frontispiece is unique of its kind, being two butterflies asleep on a blossom and covered with dewdrops.

THE PRIZE WINNERS for the current month in the Warwick competition are: For the £10 prize, L. C. Keighley-Peach. For the £5 prizes, A. Coupe, Mrs. Mahony, James Porter, A. W. Sargent, and E. M. Treble.

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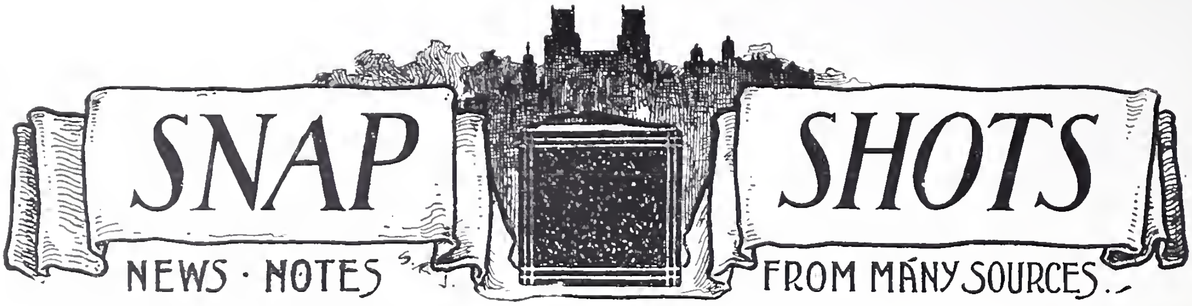
IN THE THORNTON-PICKARD PRIZE COMPETITION FOR 1903 the following awards have been made: Class I.—First prize (£10), Miss A. Tomlinson; second prize (£5), Miss E. Tomlinson; third prize (£3), A. Harris. Six prizes of £2 each to W. Bratherton, A. Callier, J. Garton, J. Walker, H. A. Hawkins, and Miss M. C. Eames. Class II.—First prize (£10), A. W. Sargent; second prize (£5), Mrs. S. Mahony; third prize (£3), M. Browne. Six prizes of £2 each to C. J. Waters, W. Reginald Prior, G. Anderson, jun., F. Spalding, E. Nagel, and Mrs. Hughes. Class III.—First prize (£10), Mrs. G. A. Barton; second prize (£5), V. Stoutfs; third prize (£3), D. Dunlop. Six prizes of £2 each to Miss S. Aird, Mrs. M. Preston Durn, A. Durn, T. Steel, G. E. Low, and W. C. Kirk and Sons. Class IV.—First prize (£5), W. P. Thompson; second prize (£3), Dr. C. Shaw; third prize (£2), T. G. Pearce.



SNAP SHOTS

NEWS · NOTES FROM MANY SOURCES

THE PRIZE CAMERA in the Austin-Edwards film negative competition for the current month was awarded to Mr. William Connal.

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THE HOVE CAMERA CLUB EXHIBITION will be open from Dec. 2nd to Dec. 5th. A large proportion of the pictures exhibited at Southsea, and reviewed in our columns last week, is on its way to Hove, and a most successful exhibition is assured.

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ILFORD, LIMITED. DECLARATION OF DIVIDEND. This is at the rate of twelve per cent., making ten per cent. for the year. For the corresponding period of last year the rate, including a bonus of two and a half per cent. was twelve and a half per cent. The amount brought forward is £1,500 less than it was a year ago.

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"APEK" SELF-TONING PAPER AND "APEK" GASLIGHT PAPER have been brought out by Mr. Wilfred Emery, of High Road, Cricklewood. Excellent results can be obtained on these papers. Working instructions are given with each packet.

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THE DEATH OF MR. THOMAS RUSSELL, of Chichester, is announced at the age of sixty-two. He was a member of a family that has been closely identified with photography for many years, his father, Mr. James Russell, having formed the well-known firm of Russell and Sons some forty years ago. He leaves a widow and three daughters.

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THE GOERZ COMPETITION, which has just closed, has resulted in a good many awards coming to this country. The following is the list of British winners: In Class I., C. D. Paton, Charles Breach, Dr. D. C. R. Corrigan (£5), F. J. Mortimer (£2 10s.), J. W. Beken (£2), Fred Spalding, Oliver C. Pike (£1). In Class II., James Shaw (£5), W. Kilbey, H. R. Campion (£2), G. Easonsmith, J. H. Gear, Phillip Bulmes, James Walker (£1). In Class III., R. Forbes, James Shaw (£1). In Class IV., F. J. Mortimer (£2). In Class V., Chas. I. Inston (£5), Wm. E. Inston (£2 10s.), W. Scott Elliott, jun. (£2), James Shaw (£1). In Class VI., F. J. Mortimer (£3), Oliver C. Pike (£2).

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AT THE SHEFFIELD PHOTOGRAPHIC SOCIETY'S EXHIBITION opened on the 17th inst., the judges—Messrs. Barrow Keene, Alexander Keighley, and Frank M. Sutcliffe—made the following awards: Open Classes—Champion Class: Gold medal, Mrs. G. A. Barton. Landscape: Silver medals, Douglas Deeley and C. E. Wanless; bronze medal, F. J. Mortimer; honourable mention, A. Nicholson. Portraiture, etc.: Silver medal, F. J. Mortimer; bronze medal, Dr. C. F. Grindrod. Architecture: Silver medal, W. A. Clark; bronze medal, W. M. Coultas. Flowers, etc.: Bronze medal, A. W. Walburn. Lantern slides: Silver medals, B. H. Bentley and F. J. Mortimer; bronze medal, J. W. Charlesworth; honourable mention, J. W. Charlesworth. Members Classes—Landscape: Silver medal, Dr. H. G. Paterson; bronze medals, A. De Silva and J. W. Wright; honourable mention, T. G. Hibbert. Architecture: Silver medal, Dr. H. G. Paterson; bronze medal, W. T. Furniss. Other subjects: Bronze medal, T. U. Simonson; honourable mention, T. Smedley. Lantern slides: Silver medal, T. G. Hibbert; bronze medal, J. R. Wigful; honourable mention, T. G. Hibbert and A. Nicholson. Special classes for scholars attending day schools in Sheffield: Silver medal, C. Charlesworth; bronze medal, H. Seed. Class for members of societies near Sheffield: Silver medal, L. Havenhand; bronze medal, W. Firth.

AMONGST RECENT CATALOGUES is one from Hobbies, Ltd., of 12, Paternoster Square, London, E.C., which includes portable enlargers, enlarging lanterns, optical lanterns, etc.

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PHOTOGRAPHIC MANUFACTURERS, dealers, etc., may have their names and addresses inserted in the "Annuaire du Commerce et de l'Industrie Photographique" free of charge by sending them to M. Chas. Mendel, 118, Rue d'Assas, Paris.

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AN EXHIBITION of home-made apparatus was held by the Hull Society on the 19th inst. Mr. Bristow showed an enlarging lantern he had made out of a 28 lbs. Colman's starch box. In the place of the lid a tin hood had been fixed, which allowed of ventilation but prevented the escape of light. The bellows was made of Italian cloth, running on wires at the top and bottom, and the length of the bellows was regulated by the wires sliding in tubes fixed to the side of the lantern. For the illuminant an incandescent gas mantle was used. The condenser had of course to be purchased. Other apparatus was shown, and Dr. Hollingworth toned several bromide prints by the sulphuretting method recently described by Mr. Blake Smith in *Photography.*

Seltona Christmas Cards.

SELTONA, the self-toning paper which Messrs. A. and M. Zimmermann, of 3, Lloyd's Avenue, E.C., have been running for some time now, with their Leto-special and Leto-gaslight papers and cards, appeals to those who, while preferring to print by daylight, dislike the operation of toning. Postcards coated with this emulsion, and having Christmas and New Year greetings printed upon them, have been placed on the market. The accompanying illustration shows one of the designs. Postcards are also sold coated with the two Leto emulsions bearing the same design.

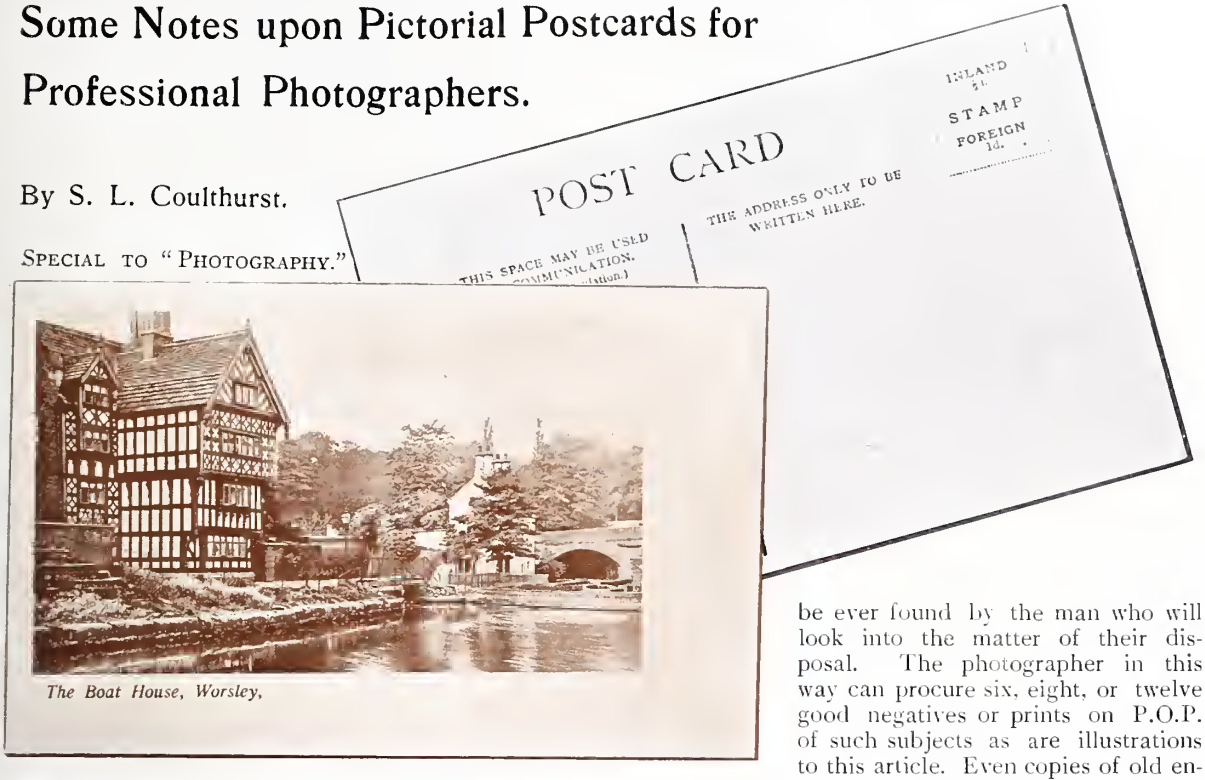
POST CARD.
A right merry Christmas and Bright New Year to you.

Those who have used the Seltona paper are aware that very fine tones may be obtained upon it by simple methods, and the cards are equally good. Printing should be carried a trifle further than is desired in the finished print, and either warm brown or purple brown tones may be obtained by a slight variation in the procedure. For the former the cards are placed without previous washing in a solution of one ounce of hypo in fifteen ounces of water. For the purple tones, a preliminary bath in a solution of a quarter of an ounce of salt in twelve ounces of water must be given, after which the cards are to be fixed as above. The cards are made both matt and glossy, and being coated with a collodion emulsion, may be dried between blotting paper or in front of the fire. They are sold in packets containing twelve cards and two masks at one shilling.

Some Notes upon Pictorial Postcards for Professional Photographers.

By S. L. Coulthurst.

Special to "Photography."


POST CARD
THIS SPACE MAY BE USED FOR COMMUNICATION.
THE ADDRESS ONLY TO BE WRITTEN HERE.
INLAND ½d.
STAMP
FOREIGN 1d.

The Boat House, Worsley,

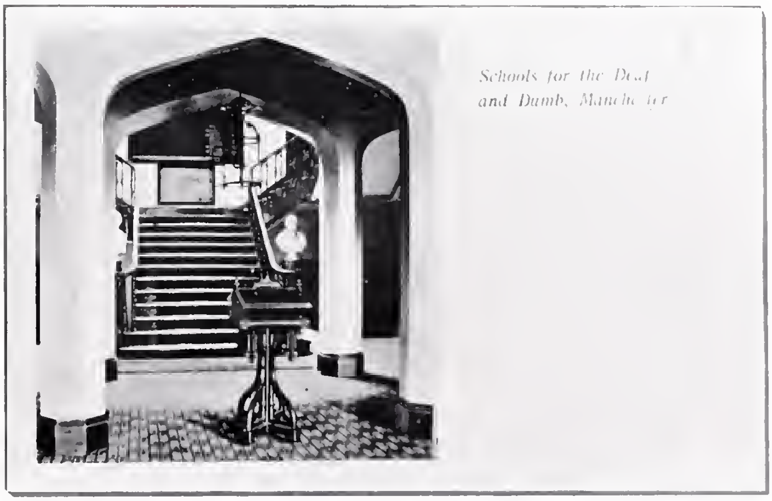
It is an undoubted fact that the picture postcard has "come to stay." This fact has been brought home to me by close connection with their wholesale production and with the placing upon the market of thousands of new designs during the past few years. What becomes of the cards I do not know. Many doubtless go abroad to exchangers in return for those sent to British collectors, whilst the bulk, I am inclined to think, go into collectors' albums at home. The immense sales go to show that a rapidly increasing number of people use them. One firm alone advertise that their yearly production is 43,000,000, and that they keep a permanent stock of 14,000,000 cards; while at the present time there are a vast number of publishers making money at it, and making it at a large percentage.

All classes of illustration are used: animals, cathedrals, seascapes, famous pictures, comic actors and actresses, figure subjects, souvenirs of plays, Dickens and Shakespearian characters, landscapes, buildings, and local views.

The professional photographer will find it well to look into the matter at once, and consider if it is not worth his while to enter this postcard business—if not in a large, then in a small, way. There is money in it wherever his business may be. Be it only in a village, all the buildings of any importance—the main street, the church, the almshouses—should be photographed. To these should be added local events, of which there is usually a demand for prints; or, at any rate, channels for their use can be ever found by the man who will look into the matter of their disposal. The photographer in this way can procure six, eight, or twelve good negatives or prints on P.O.P. of such subjects as are illustrations to this article. Even copies of old engravings of old scenes or buildings long passed away, it will be noted, can be used to make excellent postcards. These negatives or prints should be most carefully selected as being the most popular in the district, and from them the postcards can be made.

As to the Method of Production.

The first and foremost point to be kept in view is how they can be reproduced in the best style at the lowest cost consistent with good work and a minimum of labour and trouble to publisher and photographer. I will deal only with cards printed in black and white, or in any one colour on white or other card.



Schools for the Deaf and Dumb, Manchester

Pictorial postcards printed from half-tone blocks in the small way may be dismissed, as unless very good blocks can be secured and these can be printed by a printer who understands printing from high-class blocks on card, disappointment only can result.

Almost every printer will say he can print from blocks, but the proof of the pudding is in the eating; and I venture to say that not one in twenty can print half-tone blocks as they should be printed. Besides, for small quantities the price is high, while if large numbers are wanted, the blocks become the worse for wear.

THE HOUSE IN WHICH Wm. ROSCOE, ESQ. WAS BORN. MOUNT PLEASANT, LIVERPOOL.

We may also dismiss the consideration of the use of commercial bromide postcards, which are sold ready for use by the dealers, not because they are other than of high quality, but because of the slow method the photographer has of turning them out, and because he will have to sell the cards at twopence each at the least to pay, and to-day the popular price of the cards is one penny. At this price, more than twice as many will be sold as at twopence. So we are brought down to a mechanical method for our results. Now, I have no hesitation in saying that collotype is the process by which the photographer should have his cards reproduced, not only on account of price, but also of quality, and they should be put into the hands of one of the many fine collotype printers in this country.

Kinder Valley.

Ordsall Hall, Salford.

All the photographer need do is to hand over his negatives or prints of any size to the collotype printer, who will reduce or enlarge them, sharpen up defects, add clouds in an artistic manner, lighten up dark patches of shadow, and generally make a good job of the whole thing. They can be printed in black or white or in any one colour on smooth or rough card, either to fill the whole card or occupy any given portion.

For high-class style, I would recommend a card with a surface similar to an eggshell, and printed in ink of a sepia colour. They look rich and good, and the cost is no greater. The name of each subject and of the photographer who issues them is printed on each card, and will be found to be a good advertisement. This name is called an imprint, and will be noticed on one or two of the cards reproduced.

As to Prices and Quantity.

If the photographer will only push his goods, and secure agents for the sale of the cards all over the neighbourhood, he ought to have no difficulty in selling over 1,000 of each card—perhaps 5,000. Now, if they are ordered in sets of six, twelve, or twenty-four, they will be found to come cheap. Thus the price from one of the largest and best London houses—a house that does work for Government and the leading firms, and is of highest quality—is about as follows:

For 1,000 of each card, 18s. 6d. per 1,000.
For 5,000 of each card, 17s. per 1,000.
For 288 of each of six cards, 4½d. per dozen.
For 144 of each of twelve cards, 4½d. per dozen.

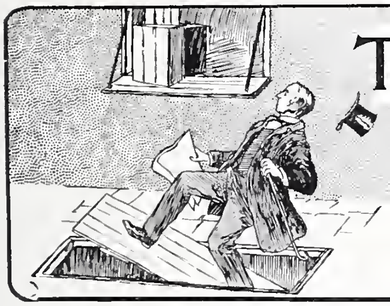
Lower prices than these may be obtained, but these are roughly correct for high-class work, including retouching, the printing in of clouds and of the titles, and the photographer's name. It will be noted that 18s. 6d. per 1,000 figures out at 2¾d. per dozen cards. These sell at one penny each. If 5,000 of a card be ordered, the price comes down to 2½d. per dozen; and even if only 144 cards each from twelve negatives or prints are taken, they only cost 4½d. per dozen. The dozen gross will thus cost 54s., and if sold at 1d. each will fetch 144s.

The best way to order cards under the different conditions is probably as follows: If the cards relate to a village, 288 of six kinds at 4½d. per dozen should suffice. For a township or market town of 20,000 to 30,000 inhabitants, 1,000 each of six kinds might be ordered at 18s. 6d. per 1,000. When they come to hand, agents should at once be appointed all over the village or town—stationers' shops being the best. Failing these, cottagers who supply teas, tobacconists, etc., are all good agents. They are generally very glad to show them in the window with a showcard such as this:

PICTORIAL POSTCARDS
Of the District. 1d. each.

The price usually charged to agents is eightpence per dozen, which leaves thirty-three and a third per cent profit for them, and for the photographer and producer much more, even if they cost the full 4½d.; while, if they are got at the 1,000 rate, the profit, of course, is much larger.

[The illustrations have all been chosen from work done on these principles. They have been produced by various houses, the names of which can be obtained from the editor by any *bonâ-fide* professional photographers, for whose benefit this is written. All that is asked is that a stamped addressed envelope for reply shall be sent. Mr. Coulthurst has kindly offered to put his practical knowledge of the economical production of pictorial postcards at the service of our readers who care to avail themselves of it. We may say that postcards in colour are only within the reach of those who can go in for large numbers of a card—3,000 or 5,000 and upwards of the same one—for the initial cost of colouring is high; but should a desire be expressed by our readers, Mr. Coulthurst will be glad also to give information upon this point.—ED.]



TRAPS & PITFALLS *for beginners in* PHOTOGRAPHY.

Running Water, Waterfalls, Cascades, etc.

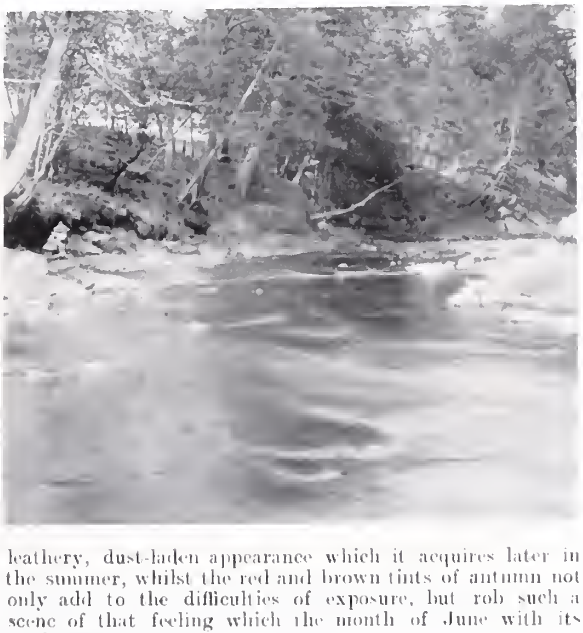
I would offer a warning regarding the alluring prospects offered by rapidly running streams and the typical "fairy-glen" waterfall. They are subjects which often give disappointing results. To retain the crispness of the ripples the camera should be sufficiently far off (say ten yard) to enable a brief exposure—about 1-15th of a second—to be given without under exposure, but even when great care in the selection of the picture has been exercised from this special point of view, the chances are that the shadow portion, even with a rapid plate, will not be fully exposed with as little as 1-15th of a second. If this is not the case it is best to leave that particular view alone and to choose another where the conditions will be more suitable.

Waterfalls and cascades are subjects acknowledged to present many difficulties. On one hand, we have the deep shadows cast by the foliage (and here note that the light which is reflected into these shadows is for the most part green, a non-actinic colour), dark banks, often with brown rocks, and, in addition, we have the fact that such a scene is usually in anything but an open position. On the other hand, brilliant, sometimes even dazzling, lights are reflected from the water. These difficulties can sometimes be successfully overcome by employing one or other of the methods to be suggested.

Let the camera be very firmly fixed, so that the insertion and removal of the dark slide causes no change in its position. Then give an exposure of from $\frac{1}{8}$ to $\frac{1}{10}$ of a second for the water part of the picture, and, without moving the camera, give a full exposure on another plate for the shadows, and resort to double printing. Some authorities advise a strong side light in order to relieve flatness and obtain bold relief. As there is generally more than sufficient contrast in such scenes, a front light will often prove better.

With such subjects an orthochromatic plate has distinct advantages. If two exposures are made, one for the water and the other for the banks, the latter should be given through a yellow screen. The exposures are best found by an actinometer. In each case a rapid backed plate must be used

June is best for such work, as the foliage is still spring-like and fresh, and has not assumed the darker, leathery, dust-laden appearance which it acquires later in the summer, whilst the red and brown tints of autumn not only add to the difficulties of exposure, but rob such a scene of that feeling which the month of June with its freshness suggests.

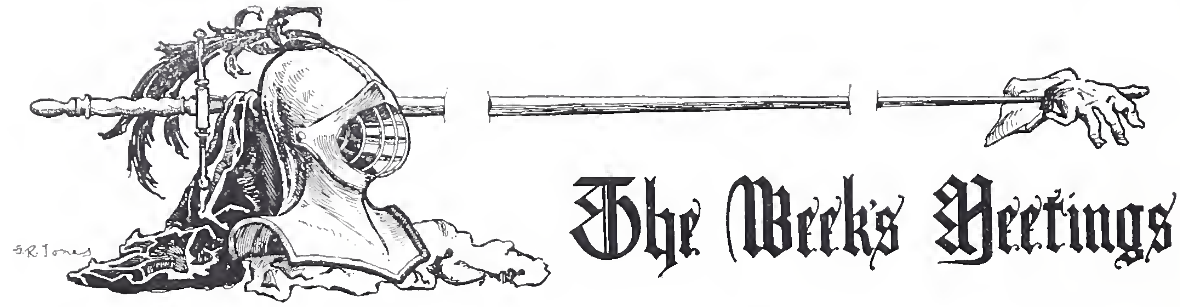


Again, the photographer must judge whether the special scene that he wishes to attempt can be better expressed under the influence of sunlight or by a bright diffused light. The former, so much to be desired, unfortunately casts heavier shadows and increases the contrasts, often imparting a white, spotty appearance to the foliage, especially when the summer is well advanced.

Development must not be carried too far; on no account must there be an attempt to force density; if necessary, reliance should rather be placed upon after intensification. I would advise 1-40 solution of rodinal at 60° Fahr. to 65° Fahr. to secure a soft, delicate negative with half-tones, and transparency in the shadows, using a factor about thirty-five times the interval that elapses between the immersion of the plate in the developer and the first appearance of the image: or the Ilford pyro-soda formula made up from the stock solution, as given on the box, using as a factor five or six. After making many experiments I find that with these developers soft delicate negatives full of gradation and atmosphere are obtained, which are singularly suitable for enlargement.

If a reckless snapshot is made, a large proportion of the negative when finished consists of clear glass, and if a prolonged time exposure is given, the resulting "whitewashy" spaces will be but a poor apology for the beautiful reality. The illustration on the previous page shows the effect of an exposure that is too long. Eight seconds was given to this rippling water. I especially call the attention of the reader to the unnaturally "liney" appearance of the water; it should have had about 1-15th of a second exposure.

EXPERIENTIA DOCET.



The Week's Meetings

THURSDAY, NOVEMBER 26TH.

N.W. London. Apparatus Night.
Hull. Ruined Abbeys of Yorkshire. Rev. J. Beanland.
Batley. Lantern Night. Rajar Changer. G. E. Rushworth.
Rodley. Films. A. Matthews.
Blackburn Flashlight Photography. H. Preston.
Gateshead. Carbon Printing. R. Henderson
Tynemouth. Loan Exhibition closes.
Richmond. Discussion on Holiday Prints opened by — Oetzmann.
Leigh. Papers, Printing, and Finishing. H. Morris.
South Norwood. Majorca. Lantern Lecture.
Liverpool A. Lantern Lecture.
L. & P. English Gothic. A. Bedding.
Bolton. What an Amateur can do with a Camera. — Rushton.
Camera Club. Picturesque India. E R. Ashton.
Rugby. Photographic Novelties. Members
Southport. Mauntaineering in Scotland. J. W. Puttrell.
Watford. C.C. Lantern Slide Making. J. A. Hodges.

FRIDAY, NOVEMBER 27TH.

Boro' Poly. Lantern Slide Making. F. W. Gregg.
Walsall. Manufacture of Photographic Lenses. H. L. Aldis.
Weymouth. Exhibition.
Bromley. Stereoscopic Photography. A. W. M. Dickins.
Croydon Nat. Pinakol P. and Pinakol Salt. J. H. Baldock.
Wimbledon. Lantern Lecture.
Reading. Perspective with Short Focus Lenses. — Wardell.
Aberdeen. A Trip in Normandy. V. C. Baird.

SATURDAY, NOVEMBER 28TH.

Glasgow Eastern. Annual Exhibition opens.
Edinburgh. The Kinematograph as an aid to Nature Study. J. E. Fraser.
Norwich Teachers' Field Club. Failures in Carbon. J. H. Goreham.

MONDAY, NOVEMBER 30TH.

South London. Enlarging Process H. C. Beckett.
Ilford. Nomination of Officers. Election of Two Auditors.
Halifax. A Trip to Southport. A. Houghton.
Bradford. Y P.U. Members' Portfolio.
Southampton. Night Photography. E. Kelsey.
Sunderland. Club Exhibition opens.
Kingston-on-Thames. Exhibition of Apparatus.
Nottingham. Practical Landscape Photography. G T Harris.
Catford. Technical Evening. — Pearce
Luton C.C. Toning P.O.P. A Rayner Demonstration. J. H. Gear.
Bournemouth. How I take my Animal Studies A. W. Thomas.
Camera Club. Half-tone Blocks for Illustration. J. Spottiswood.

TUESDAY, DECEMBER 1ST.

Brentford. Lantern Night. Platinotype Printing. F. H. Read.
Sheffield. Lantern Night.
Goldsmiths' Institute. Ozotype. T. Manly.
Heaton. Gum Bichromate Process. J. T. Carnaby.
Thornton Heath. Lantern Night.
Hackney. Enlarged Negative Making. H. W. Bennett.
Chiswick. Bromide Work. E Morgan.
Blackburn The aims of Pictorial Photography. A. Nield.
Glasgow Southern. Hand Camera Photography. E. F. Wallis.
Monklands. A Visit to Palestine. — Neilson.
Darlington. Social Evening.
South Shields. Along the Roman Wall with a Camera. G. Hurrell.
Yeadon. Lantern Slide Making by Reduction. C. Smith.
Nelson. Lantern Night.
Keighley. A Tour round the Mediterranean by two Ladies. Mrs. A. Whiteley and Mrs. H. G. Brierley.

TUESDAY, DECEMBER 1ST *(continued)*.

Scarborough. A Naturalist's Photographs. H. Lazenby.
Jersey. Sinop Process. Penrose and Co.
Newcastle-on-Tyne. Informal Meeting.

WEDNESDAY, DECEMBER 2ND.

Everton. Members' Lantern Slides, and last day for competition.
Woodford. Sodium-amido-acetate. J. McIntosh.
Croydon. Bromide Print Display and Competition.
Hull. Exhibition of Members' Prints and Slides opens.
Leeds C.C. How to Make Dry Plates F. W. Plews.
Bristol. Elements of a Picture. T. G. Chapman.
Boro' Poly. Is Time Development Desirable? H. W. Bennett.
Chiswick. Bromide Papers. J. W. Webber.
Photo Club. Some Colour Photography Data. By T. Thorne Baker.
Cricklewood Bromide Printing. Wellington and Ward
G.E.R Mechanics' Institute. Distribution of Prizes in Town Hall.
Balham Exhibit of Art Cards with Comments Thereon. G.W. Stockman.
Hove. Fifth Annual Exhibition.
Bishop Auckland. Gum-bichromate. C. H. Hewitt.
Sunderland. Club Exhibition closes.
Wimbledon. Discussion. Pyro-soda Developer.
Birmingham Telegraphs. Backyard Portraiture. F. B. Brindle.
Bolton. Remedying Defective Negatives. —. Harrison.

THURSDAY, DECEMBER 3RD

N.W. London. Lantern Slide Competition.
Chelsea. Sandell Cristoid Film. F. Humpherson.
Ealing. Enlarging at Home with Inexpensive Apparatus. A. W. Green.
Darwen. In the Moselle Valley with a Camera. W. Philips.
Tynemouth. Portraiture C. H. Hewitt.
North Middlesex. Fifteenth Annual Exhibition opens.
Richmond. Lantern Night.
Rontgen. A New Induction Coil and High Frequency Apparatus Leslie Miller.
South Norwood. Platinotype Printing and Developing. —. Smith.
Liverpool A. Lantern Night.
L. and P. Open Night.
Isle of Thanet. Annual Exhibition in the Parish Hall.
Pudsey. Platinotype. J. Skilbeck.
Southport. Majorca G. E. Thompson.
Watford C.C. Demonstration.

FRIDAY, DECEMBER 4TH.

Watford P.U. Tour in Ireland. F. W. Hindley.
Boro' Poly. Enlarging. A. M. Usher.
Southampton. A Tour Round an Old Garden. A. Keighley.
Whitby. Night Photography.
Nelson. Visit to Colne.
Walsall. Lantern Night.
Weymouth. Toning Bromide Papers. C. J. Gibbs.
Plymouth. Review of the Royal and Salon Exhibitions. H. S. Hill.
Isle of Man. Lantern Night
Bromley. Tri-colour Process on Paper. T. K Grant.
West London. Development and the Improvement of the Negative. H. Selby.
Reading. English Gothic Architecture. J. Mann and T. A. Coysh.
Aberdeen. Mountains and Glens. A. I. M'Connochie.

SATURDAY, DECEMBER 5TH.

East Liverpool. Annual Competition.
Hull. Exhibition of Members' Prints and Slides closes.
Durham City. Hand Camera Photography. E. F. Wallis.
North Middlesex. Fifteenth Annual Exhibition closes.
Simpson Memorial School. Carbon. Dr. A. T. Lakin.
Edinburgh. With a Kodak in Cairo. J. A. C. Younger. Exhibition closes.

Societies will have their meetings announced here if the syllabus is sent to us at the beginning of the Session, or from time to time.

QUESTIONS REPLIES

Readers wishing for information upon any specific point in connection with photographic theory or practice are invited to make use of the "query form," which will be found amongst the advertisements. All enquiries must comply with the conditions stated upon the query form; those which do not do so are neither acknowledged nor answered. All enquiries are answered by post. We cannot undertake to make replies in the paper. We print below from time to time a selection from the queries we receive, and our replies.

MARGINAL TINT ROUND A CARBON PRINT.

You recently told a correspondent how to get a tint round the margin of his carbon prints. I quite agree that such a tint when equal all round gives a good effect, but I want to avoid getting it, as I cannot get the margin equal on all sides. I use black needle paper masks; perhaps they are not sufficiently opaque.

The marginal tint round a carbon print is a difficult thing to avoid. It arises from slight insolubility of the surface of the tissue, and is less noticeable with tissue that is quite fresh than with that which has been kept for a day or two. Prints that bear development with rather hot water seldom show it, as it is dissolved away during development. Mr. Bennett's article on sensitising tissue printed in *Photography* for October 17th, describes a method of sensitising which prevents the surface of the tissue from becoming insoluble. It is not a difficult matter to get the tint of equal width. It may be ensured by drawing pencil lines on the mask at equal distances from the opening. The tissue should then be cut to a size that will fit inside. The extreme edges should be trimmed off the tissue just before it is squeegeed down on the paper, or the marginal effect may be spoiled by surrounding irregular dark lines.

TO PREVENT ALBUMEN FILMS CRACKING.

Can you tell me how to prevent albumen cracking when laid on a card? I use ordinary egg albumen of the best quality obtainable, dissolved in distilled water. I have tried mixing dextrine, and also glycerine, but both of these impair the brilliancy of the albumen if used in sufficient quantities to prevent cracking. Although with care I can get a coating to stand for a time in the dark, directly it is exposed to light it cracks. I require the albumen soluble in water when on the cards, as it is for using with paints.

Glycerine is useless as a preventive of the cracking on cardboard discs, the cardboard absorbing all the glycerine out of the albumen by a process of dialysis. Dextrine is even worse, as, though it does not dialyse out, yet it cracks worse than albumen when in a thick film. Gum arabic is also useless, being no better than dextrine.

A thick syrup of pure loaf sugar—made by boiling 1 lb. of sugar in about 12 ozs. of water, and skimming all dross and dirt which rises, boiling for about three minutes and then allowing to cool—answers very well. But the best of all is glucose or grape sugar, not the solid glucose, which is yellowish in colour and thick and muddy looking in solution, but the syrupy form as can be obtained from Hopkin and Williams, Baird and Tatlock, or most good houses. It is clear, transparent, and perfectly colourless. This answers very well indeed, and increases the solubility of the albumen, yet in thin films as applied with colour, dries perfectly bright and clear.

It perhaps would be as well to point out that glacose is a very easily fermenting sugar, and moist albumen readily gets mouldy, so decomposing and losing its properties. To prevent both or either of these, it is necessary to have an antiseptic, such as salicylic acid, or, better, thymol present.

We cannot give an exact formula, but the proportion of glucose to albumen should be small, and may be readily found by trial. It would also be found advantageous first to coat the cards with a solution of shellac in borax, to prevent in a great measure the absorption of the mixture.

REMOVING A BACKGROUND.

I shall be glad to know how to remove the bricks, spout, etc., from the background of the cat photograph, enclosed, and how to put in a grey background evenly distributed?

The removal of the background from the cat photograph will prove a troublesome operation. It may be painted out on the negative with one of the paints sold by all photographic dealers for the purpose. This, however, will give a white background. Another way is to paint over the background on the print with grey water colour of the required tint, after which a new negative may be made by copying in the camera. The difficulty in both methods is to avoid streakiness and to retain the soft outline of the fur. The photograph of the cat is a very good one, and as probably the photograph represents him in a favourite haunt, is it not advisable to let the original background remain rather than to risk spoiling the negative by painting on it or to waste time by working on the print?

FOCI OF A TELEPHOTOGRAPHIC LENS.

Can you tell me how I can find the focus of a telephoto attachment? I have tried by the formulæ in "Lenses," but get varying foci for each magnification, both for near and distant objects. It has "4½ × 3½ × 2½" on it. The positive is a Ross-Goerz of 6in. focus.

If it is the focus of the negative attachment that is wanted it can only be found by calculations based upon data found by using it in conjunction with a positive lens of known focus. To do so accurately would require the use of an optical bench or some substitute. A request addressed to the maker of the lens, giving the number, would bring the required information.

If it is the focus of the combined instrument that is wanted, it varies with each adjustment, and can be found by comparing the size of the image of a distant object with the size of the image given by the positive lens alone. For example, if the image with the positive lens is one inch across, and is two inches across with the complete telephotographic lens, then the latter has been set to work at a focus of twelve inches, since the size of the image is proportionate to the focus of the lens and 6 × 2 = 12.

DOUBLED IMAGE IN ENLARGING.

When enlarging with an incandescent gas lantern, I find I get a double image after long exposure. Can you account for this? I may say that it is not a case of shaking, or anything of that sort. I do not notice the defect with short exposures. Do you think it is the flickering of the gas?

As the doubled image is so emphatically said not to be due to shaking, or anything of that sort, the only solution of the difficulty that we can offer is that during the long exposure the continued heat causes some part of the apparatus to expand. This is a trouble with which photomicrographers have to contend, and they get over it by allowing the apparatus to get thoroughly warm before beginning the exposure. Similar precautions may remove the trouble in this case, but at the same time we should make doubly sure of the absence of vibration.

QUESTIONS AND REPLIES.

STOCK SOLUTIONS.

I wish to make up separate solutions of hydrokinone, metol, and sodium sulphite, so that I may be able to make up any required developer for plates or papers. Please give formulæ. Is it advisable to dispense with potassium bromide in the developer? I work the factorial system. Would the absence of bromide enable me to shorten exposures, or would it make any difference in the development factor?

Hydrokinone and metol will not keep well in solution without sulphite. Sodium sulphite dissolved in the proportion of one ounce of sulphite in four ounces of water, if stored in bottles filled to the top, and tightly corked, will keep in good condition for some time. To this solution, diluted to whatever strength the formula may require, the dry hydrokinone and metol can be added and it will quickly dissolve. We do not advise the use of potassium bromide in developing plates or bromide paper, but it is necessary with most brands of the slow gaslight papers, such as Velox, etc. We cannot say that the absence of bromide will permit exposures to be shortened to an appreciable extent, but the general rendering of the subject will be improved. In the absence of bromide the total time of development will be shortened, but as the image appears very much more quickly than when it is used, a higher factor is not required. Factors for all developers both with and without bromide are given in Watkins's "Manual of Exposure and Development."

HEATING STOVE FOR THE HYPO-ALUM TONING BATH.

Where can I get a spirit stove or lamp which will properly support a 15in. by 12in. bath for alum toning, and at the same time permit such control of the flame as is requisite?

We have no knowledge of any spirit stove other than those sold at the oil shops. So far as we know, they are not fitted with any means of controlling the flame, and are likely to prove expensive and unsatisfactory for photographic purposes. We have seen in use an oil stove called the "Salamander," which burns with an atmospheric flame, and if kept properly clean emits no smell. It is sold by the Wright and Butler Mfg. Co., of 45, Farringdon Street, and in the absence of gas makes the most efficient substitute that we know.

FLASHLIGHT MIXTURE.

I have seen somewhere a formula for a mixture of magnesium powder and wax that was said to give a very brilliant flash. Can you give me a reference to it, and say if it is efficient?

The nearest approach to the formula required that we can remember is one that we printed some time back. The proportions are: Magnesium powder, 5 parts; barium nitrate, 7½ parts; flowers of sulphur, 1 part; and beef suet, 1¾ parts. The suet should be melted and kneaded with the other ingredients into a paste. The mixture is to be put into a shallow tin box, and a little dry magnesium powder on top will assist ignition. Combinations of magnesium and barium give a very intense light, and the addition of the other ingredients leads to slow combustion and a prolonged illumination.

NOTICE TO ENQUIRERS.

☞ Answered by post: G. K., W. Morley Croft, Aylesbury, Chas. Oakley-A. Mitchell, Slidemaker, T. S., L. F. Smith, W. F. Milnes, E. S. Transcomb, Alpha, W. P. Franklin, F. L. O'Neill S. E. R., F. Phillips, W. L., Acetone Sulphite, H. S. Stone, Subscriber, R. Shakeshaft, L. G. L., H. Newlywed, E. Cherry, Constant Reader, Hon. Mrs. Livingstone, D. Murgatroyd, F. S., Sulphur Toner, Film Negative, R. H. Huddlestone, Sine Qua Non, C. Y. Robinson, T. P. G., Wildy, T. Bliss, H. J., Kings Lynn, W. Ebury, G. Albrecht, Mrs. Ashby, R. N., F. Burnett, J. C. Black, C. J., J. Pearson, Henry Calcraft, B. E. Tollett, Penicuik, A W. F. W., Blake-Smithite, W. J. G., Official. Addington, W. Warren, S. L. Wroxham, Walter Almond, T. N. G,, S. R. A., D. Milnes, Parisian Amateur, George T. Jones, G. F. Clark, Incandescent Gas, H. S Y., Wakefield, P. T., Professional, P. Montmorency, B. Snelling, Dundee, R. K. Harrison, H. O. S., Sigma, H. Baker, T. N. Lockhart, Kimberley, Toned Bromide, J. H. Beverley, Birkenhead, Cecil Hilton, S F. Liddiard, Chemist, Stockport, Gordon Knight, H. Spence, Sulphide, G. H. Cook, G. Travis, Cairo, Orford Ironmonger, Mrs. L. Johnson, Leslie Fuller, C. J. T.. H. Billings, W. Anderson.

PICTURES FROM THE TWO EXHIBITIONS

THE ROYAL PHOTOGRAPHIC SOCIETY & THE SALON

The pictures which, by the courtesy of the exhibitors, we reproduce this week are:

41.—An Eastern Princess. By C. Yarnall Abbott, of 43, South 18th Street, Philadelphia, Pa., U.S.A. (No. 167 Salon, £1 10s.)

42.—The Curfew Hour. By C. H. Hewitt, of 9, Catherine Terrace, Gateshead-on-Tyne. (No. 22 Salon, 14in. x 8½in., £4 4s.)

43.—A Summer Shower. By F. W. Jackson, of 35, Bedford Street, Strand, London, W.C. (No. 44 R.P.S., 13in. x 6¾in., £2 2s.)

44.—Villainy. By F. H. Evans, of Takeleys, Epping Upland, Epping, Essex. (No. 77 Salon, £1 1s.)

We have given the addresses of the exhibitors themselves this week, as the exhibitions are now closed. When a price is given it is for the picture framed, as exhibited, the sizes being the dimensions of the print excluding frame and mount.

CHEMICAL & PHYSICAL NEWS

A weekly summary of those sciences upon which all photographic processes are based.

Specially compiled for Photography by Prof Fergus J McInnes

"IONAPLASTICS."

UNDER this title M. L. Houllevigne describes a new method of obtaining thin metallic films and mirrors. It has long been observed that in exhausted tubes where the glow discharges take place the walls of the tube will gradually take a coating of disengaged electrode particles. This phenomenon is utilised by methods described recently before the French Physical Society. The author obtains thin films of various metals upon surfaces which may be either conductors or non-conductors, those obtained upon the surface of glass plates being the most interesting. The apparatus used consists of a glass bulb placed on a conductive plate. The latter is connected to the positive pole, and bears an aluminium disc, on which the glass plate to be treated is placed. The cathode terminates in a plate of the metal which is to be precipitated, above the glass plate. The plate to be coated with metal should be placed about 15 mm. below the cathode plate. The current is supplied from a Ducretet induction coil, though the same result ensues with any other. After obtaining a vacuum of about 1-20 to 1-100 mm. the induction coil is allowed to work, when the glow discharge will fill the whole bulb, and the cathode be surrounded by the well-known Hittorf dark space. A stream of projected particles occurs, most of which are precipitated on the glass plate in front, where a coating is rapidly formed. The film so produced is either transparent or opaque, according to the time allowed. It is perfectly reflecting, and in proportion to its small thickness is rather resistant, and will in many cases, by transmitted light, show a marked coloration—copper a green, gold a greenish blue, and silver a violet. The process is likely to become a useful complement to galvanoplasty, being especially available for obtaining mirrors and other reflecting parts used in various scientific instruments.

NITROGEN FROM THE ATMOSPHERE.

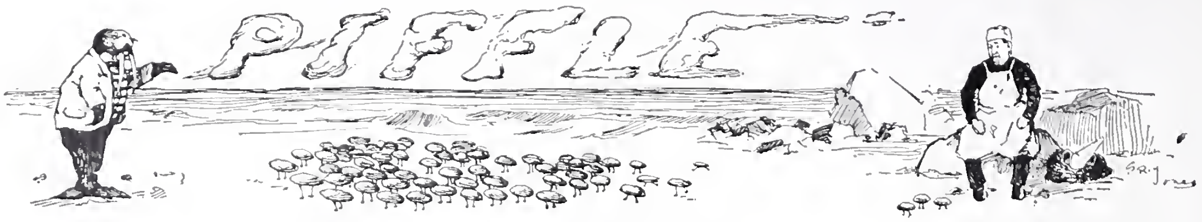
THE problem of turning to practical use the nitrogen of the atmosphere for the purposes of agriculture and other industries is one which has excited the attention of the scientific world for many years past. *Nature* tells us that, according to a recent communication of Dr. Frank, of Charlottenberg, the fixation of atmospheric nitrogen on a practical scale can be effected through the agency of the carbides of the alkaline earthy metals. Barium carbide is especially suitable for the purpose, which by the absorption of atmospheric nitrogen is converted directly into barium cyanide. The reaction with calcium carbide proceeds differently, the product being calcium cyanamide, which, however, by heating with water under pressure, is easily converted into calcium carbonate and ammonia. Experiments have, moreover, shown that calcium cyanamide can be used directly as a means of supplying nitrogen to the soil.

CHEMICAL REACTIONS AT HIGH TEMPERATURES.

WE recently recorded results of research into the region of low temperatures, approaching the absolute zero, as influencing chemical action and combination. Professor C. Zenghelis has lately published in the *Electrochen Zeitschr.* the results obtained by him in an opposite direction. In the Goldschmitt "thermite" process, which was also recently described in these columns, a temperature as high as about 3,000 degrees is obtained by indirect combustion of aluminium by means of "bound" oxygen. Now, the combustion of the same element in free oxygen would give rise to a very much higher temperature, the figures given by theory being 5,117 degrees in the former case, and 19,062 degrees in the latter. Professor Zenghelis's method of procedure was to pour aluminium powder into a highly-heated melting crucible and to conduct a stream of oxygen through it, when the powdered metal burnt with a whistling noise. The temperature reached by this means was at least as high as that of the electric arc, as may be inferred from the results obtained. These may be briefly summed up as follows: The crucible itself was found to be molten at one point, and eventually was pierced. Platinum, chalk, and magnesia were instantly melted and volatilised, and in the case of the alkaline earths a great part of them combined to form aluminates. By burning a mixture of aluminium with fifteen per cent. of graphite, aluminium carbide was produced. Aluminium at temperatures above 1,000 degrees undergoes both in carbon dioxide and carbon monoxide a most lively combustion, no trace of carbon being left, the result being aluminium oxide and carbide. Precisely similar is the result obtained with N_2O and NO, aluminium mitride and oxide being the products which are formed in that case.

THE MAGNETIC STORM.

PHOTOGRAPHERS, as well as farmers, have good cause to remember the year 1903. Its almost continuous downpour of rain, which has already considerably exceeded all previous records, a phenomenal absence of sunshine, with murky overcast skies, and whole districts submerged in floods, have made this year a most disastrous one. The daily press has been much stirred by a new sensation, which has given rise to new speculation and new prophecies of further disasters to come. This is no less than a disturbance in the magnetism of the earth, which no doubt is intimately connected with the approach of the maximum period of sun-spots. The connection between the excessive rainfall and sun-spots has scarcely been proven in a satisfactory manner. A phenomenal rainfall necessarily implies a phenomenal evaporation in some other place. The magnetic storm of October 31st, however, possesses great interest from the physicist standpoint, and its teachings will not be lost. In the current issue of *Nature* an account is given of the variations in the curves as registered at the Natural Physical Laboratory, Richmond, Surrey. We learn that on the evening of the 30th the disturbance was of a normal character, and the first distinct precursor of the magnetic storm was an exceptionally sudden movement at about 6h. 3m. a.m. on October 31st, shown alike in the declination, horizontal, and vertical curves. This movement was the largest on the horizontal. The first large movement commenced at 6.45 a.m., when there was a movement on the declination needle to the left through about 34′. The storm was most violent between 10 a.m. and 7 p.m. on October 31st, but a large amount of disturbance continued until about 3 a.m. on November 1st. The recording needle frequently got off the sheet, so that the full extent of the disturbance cannot be derived from it. From the same source we also learn that at the Royal College of Science, South Kensington, Professor Callender and Mr. A. Fowler observed a violent distortion (or reversal) of the C line of hydrogen in the spectrum of the great sun-spot group, which was then a little past the méridian. A notable feature was the apparent detachment of a portion of the dark C line, the separate part presenting the appearance of a cloudy patch displaced towards the violet. The observation was unfortunately interrupted by clouds. A reversal of the C line over the same spot had been observed on two previous days, but though on these occasions the bright line was more brilliant than on October 31st there was much less distortion of the dark line. We await with interest the interpretation of these extraordinary phenomena.



"The time has come, the Walrus said, to talk of many things"

THE photographic column which now graces (or disgraces as the case may be) the pages of nearly every newspaper is more often than not a mere matter of scissors and paste. In other words, it is a resurrection pie in which reappear all sorts of bits and scraps that have been previously dished up elsewhere. When I found the photographic contributor to the *Blackburn Standard* openly acknowledging by a heading in large type that he was dishing up second-hand stuff, I felt disposed at first to take off my hat to him as an honest man. But the word which he coined for the occasion has so set my teeth on edge that I could easily find it in my heart to slay him and feed his body to the region kites. He calls his resurrection pie "Scissorsgrams."

* * *

Thus do some persons take a mean advantage of the fact that we have abolished in this country the thumbscrew, the rack, and the headsman's axe.

* * *

A writer in *Madame* has given away the secret of Mr. Horsley Hinton's consistent success in landscape work. "He takes the camera as he finds it, and his works are always photography."

* * *

Oh, *Madame!* Don't you know about the sheet of tissue paper on the back of all the negatives, and the stump work, and the pencil work, and the masking? I really fear, *Madame*, that if Mr. Hinton heard you say that his landscapes were produced straight away by the camera he would almost begin to feel rather inclined to have a suspicion that you don't know anything about it.

* * *

I have made a discovery. There is a magazine published in this oountry that has not got a photographic column. I don't name it, because half of you would straightway pounce on the editor to give you the job.

* * *

That job is for me.

* * *

I have made another discovery. I have found out the way in which most of these photographic columns are produced. It is like this. A chap who perhaps does not know a lens from a tripod screw undertakes to supply, say, fifty papers a week with a column. He then copies out a few assorted paragraphs from a text-book or a photographic paper and works off fifty duplicates. Jolly idea, isn't it?

* * *

Some of these columns are really marvellous. The writer of one (that is, of fifty) had trippingly talked about the meaning of f/8, f/16, etc., had settled the plate versus film controversy, described platinum printing, given several formulæ, puffed three or four separate articles, and fully explained development of negatives. Next week, said he, I will tell you how to make bromide enlargements, lantern slides, and carbon prints.

* * *

And he did.

* * *

If I thought the editor wouldn't find out I would buy a cyclostyle or hektograph and slap off a hundred copies of this page every week. At five guineas per copy (which is very reasonable) that would bring in 26,000 guineas in one year. And if I could only feel sure of a year's run before being nabbed I shouldn't care then if the editor *did* find out.

* * *

Here is a new parrot story. Mr. C. William Bebee, of the land of the wooden nutmeg, was desirous of obtaining a photograph of a parrot in the act of eating. Did he, to that end, give it something to eat? Not he. That would have been too simple. He took it to a lonely place, and got it under control. Not with a club, but by mesmeric influence. (Fancy a hypnotised parrot!)

* * *

He then willed that the parrot should go through the motions of eating, and the controlled bird raised its claw to its beak three times. Reminds one of the little vulgar boy in the Ingoldsby Legend who "put his thumb unto his nose and spread his fingers out." Mr. B.B. got his photograph, and observes, "It is one of my proudest possessions."

* * *

What did the parrot say? I once heard the remarks of a domestic servant under mesmeric influence; and remembering what her performance was like, I should most certainly like to know what that parrot did say.

* * *

It is a terrible thing to be an anonymous writer. Sometimes one sees a letter in a newspaper from a man who says what he thinks of another man (if he dare call himself such) who skulks behind a *nom de plume*. He is called an adjectival coward. He is likened unto the wily Boers, who in olden times would persist in hiding behind rocks and things instead of coming out into the open to be shot properly.

* * *

Really, the position is a most painful one. For instance, I have been asked by friends if I know who writes "the rot" on this page, and I have had to look bland and pretend to agree with their opinion, and not to know who the culprit was. I have seen a man reading "Piffle" in the train, and have had to appear unconcerned when he got to the end of the page and said "bah!" or words to that effect. And next week I have put *him* in "Piffle."

* * *

Worse still, I have had to listen while someone has retailed to me (with horrible garbling and mutilation) one of my own paragraphs, and have had to laugh at the end as if it were funny. And if I have ventured to say "jolly good!" he has looked at me amazedly and said, "Do you think so?" And, alas! I have stood silent and made no sign while I have heard this page attributed to some of the most blameless and harmless ornaments of the photographic world.

* * *

I have even heard it laid to the editor's charge.

* * *

It is high time I cleared their reputations from such foul suspicion. It is high time that I stood forward with all my guilt upon me and declared myself. Disguise must be dropped. *Nom de plumes* must be abandoned. Confession must be made.

* * *

Be it known, then, that I alone am responsible. This page has been written by me.

* * *

I hear the stern many-voiced question, "And who then are you?"

* * *

And boldly and unhesitatingly I reply that I am

THE WALRUS.

SUBSCRIPTIONS.

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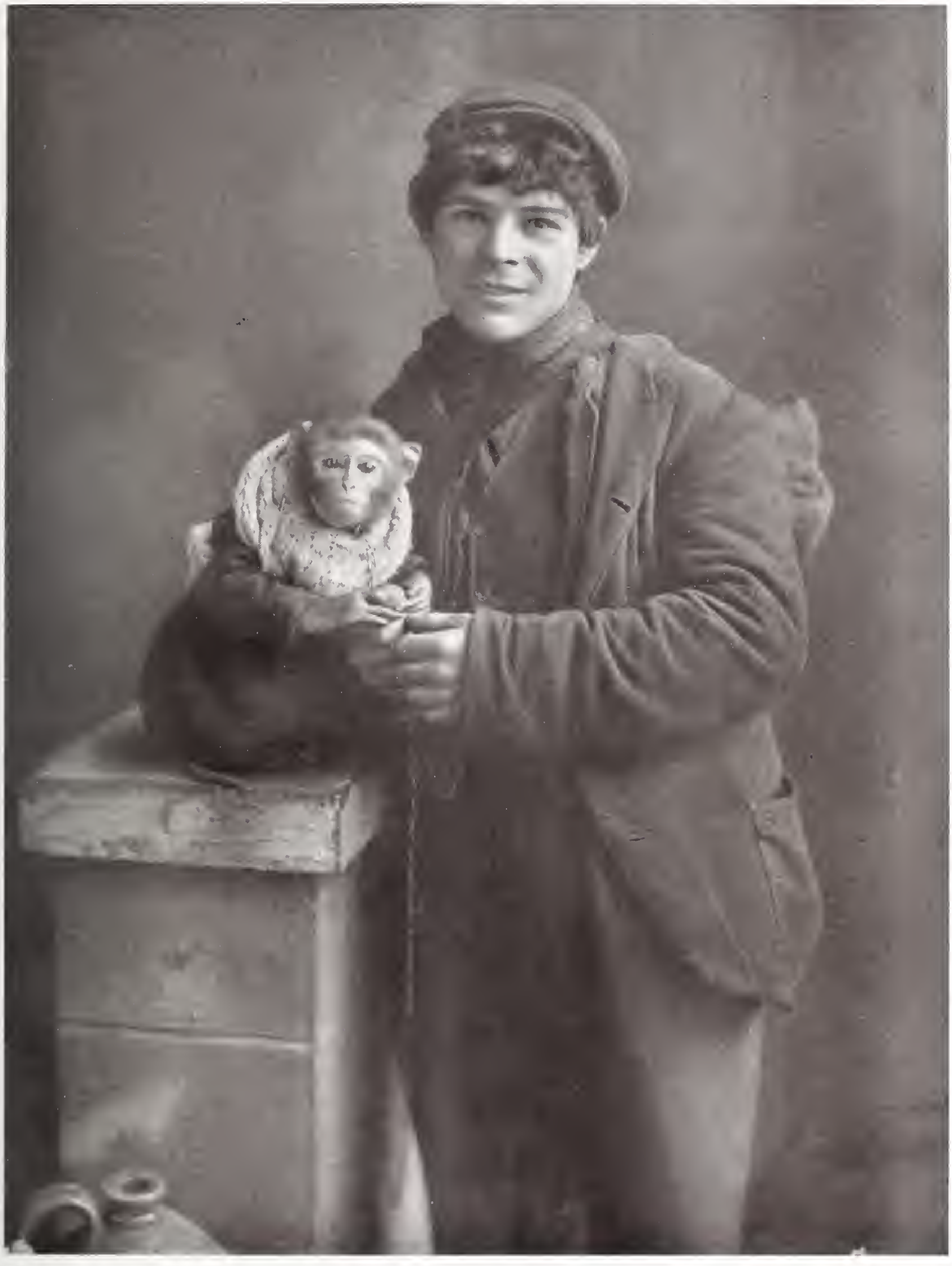


PALS. BY MISS CATHERINE EDMONDS (See the Next Page)

THE NEW STVDIO OF MISS EDMONDS

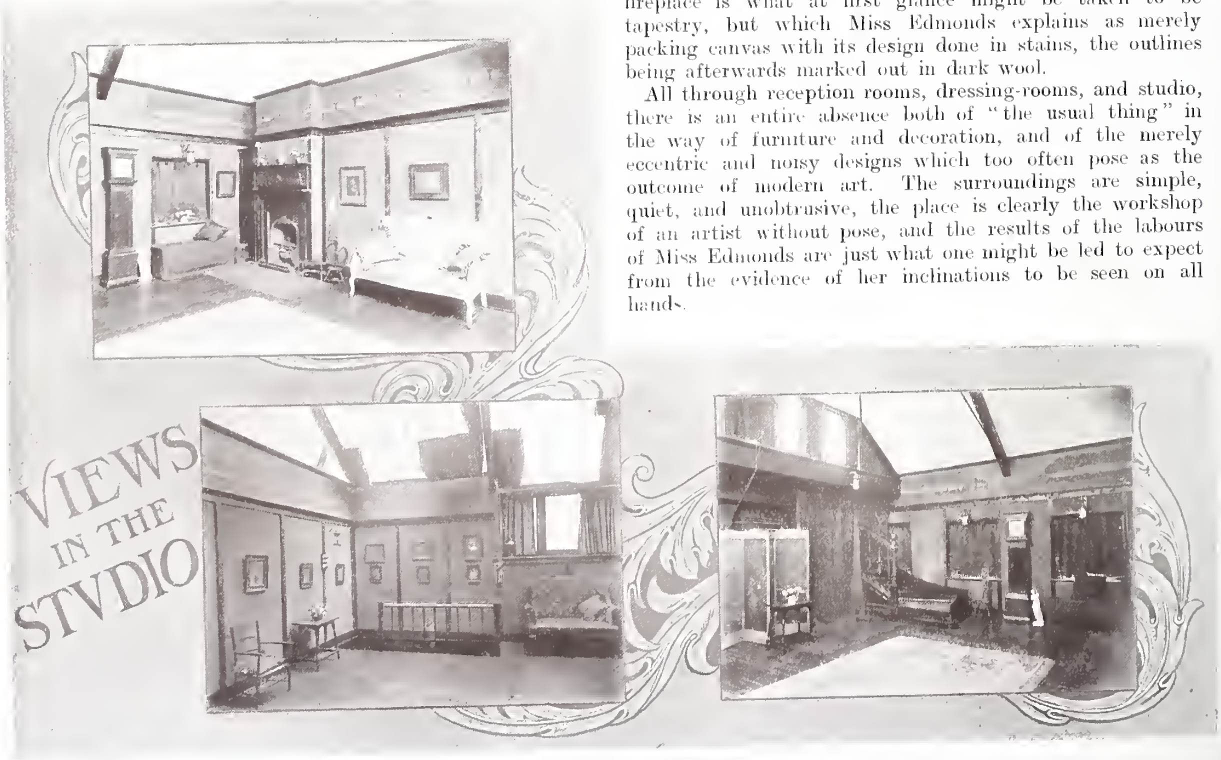
AT 31 YORK PLACE. LONDON. W.

MODERN LONDON shows a strange tendency for particular districts to become associated with particular forms of business. Doctors in Harley Street, the wholesale furniture trade in Curtain Road, the retail in Tottenham Court Road, and the hop industry in the Borough, are a few examples only. Amongst others we might cite photography, which shows an extraordinary tendency towards that delight of Thackeray—Baker Street. In fact, an examination of the directory serves to show that one thoroughfare alone as possessing no fewer than ten well-known photographic establishments.

Some of these make a great display, and attract the attention of passers by means of windows full of examples of work—in some cases good, in others bad, for Baker Street can show both; others have little or no outward sign to draw attention to them at all. Under this heading would come the Abingdon studio of Miss Catherine Edmonds, with whose work most visitors to the exhibitions are familiar, and some examples of which we are enabled to put before our readers this week. The studio is at 31, York Place, which is about a minute's walk from the Baker Street Station of the Metropolitan. The house is one of those let out into offices; and, unlike the majority of London establishments, Miss Edmonds's rooms are on the ground floor, or, to speak more correctly, the reception rooms, dark room, and workrooms are on the ground floor, the studio being just above them at the back.

The premises were not built for the purpose to which they are at present put; in fact, Miss Edmonds found them a dressmaker's establishment, the present studio being then a low-roofed workroom. Little alteration was required downstairs; but the workroom had to have its ceiling removed and a gabled one substituted before it was fitted for the very beautiful portrait work which is now done therein. This was the main alteration required, and once effected it was only needful to decorate the rooms throughout. The artistic skill of Miss Edmonds—for she is a lady whose attention has not been monopolised by photography—there had full scope; and from one end of the little suite of rooms to the other there is nothing that strikes a jarring note of any kind, but much that is very pleasant to the eye. One of the rooms is papered in a light bright yellow—a colour which is particularly suitable as a background for photographs, although few seem to have realised the fact, or, at any rate, to have hit upon the right shade, as has been done in the present case. The photographs with which it is hung are all platinotypes—some in a fine engraving black, and others in a very pleasant warm black or sepia. Another room here is decorated in green, and a third is of more varied a character, for its little stove is surrounded by a design of beaten copper, and the walls are cut up into panels with dark wood, the spaces being occupied with canvas. Over the fireplace is what at first glance might be taken to be tapestry, but which Miss Edmonds explains as merely packing canvas with its design done in stains, the outlines being afterwards marked out in dark wool.

All through reception rooms, dressing-rooms, and studio, there is an entire absence both of "the usual thing" in the way of furniture and decoration, and of the merely eccentric and noisy designs which too often pose as the outcome of modern art. The surroundings are simple, quiet, and unobtrusive, the place is clearly the workshop of an artist without pose, and the results of the labours of Miss Edmonds are just what one might be led to expect from the evidence of her inclinations to be seen on all hands.



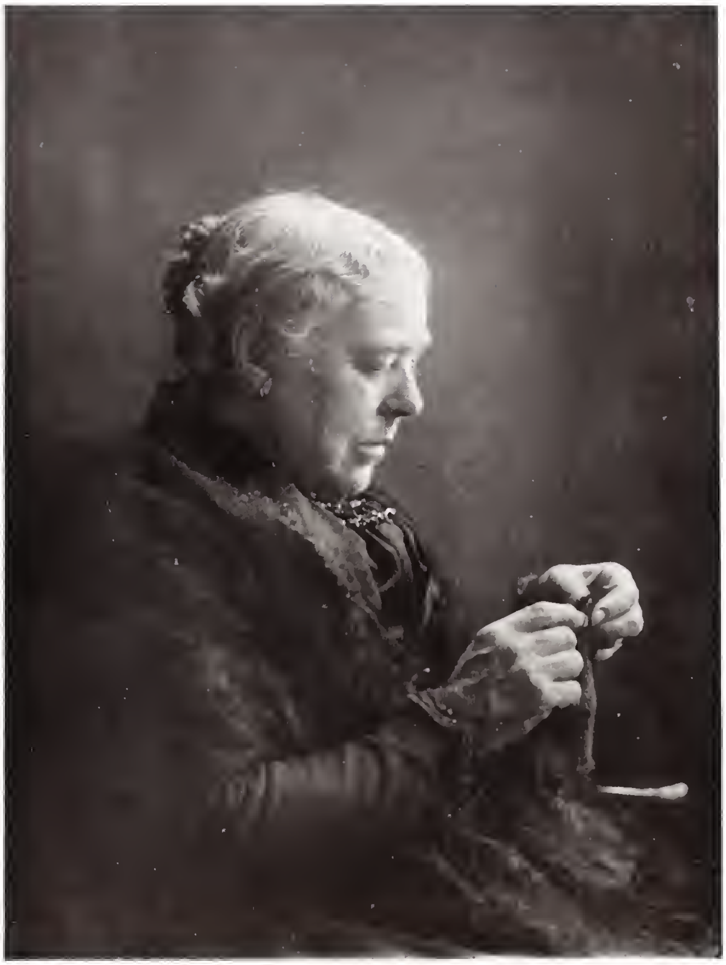
VIEWS IN THE STVDIO

From one corner of the room that we have just mentioned, a staircase of not many steps leads to the almost square studio above. The general appearance of this room is perhaps best gathered from the photographs herewith. With the exception of a large studio camera in one corner there is no evidence of its photographic uses; the once customary head-rest, the backgrounds commonly seen nowadays, the screens, the reflectors, and the sham furniture are all absent. In their place we have an ordinary room, except that its ceiling slopes up to a ridge down the middle, and that on one side of that ridge there are two or three long windows coming down to the angle where the ceiling meets the wall. The furniture is of the kind that is found in most rooms inhabited by people of artistic likes and ideas—a fact shown, not by it having bizarre shapes and distorted outlines, but rather by none of it being ugly. The frieze round the room is the work of a friend of the artist.

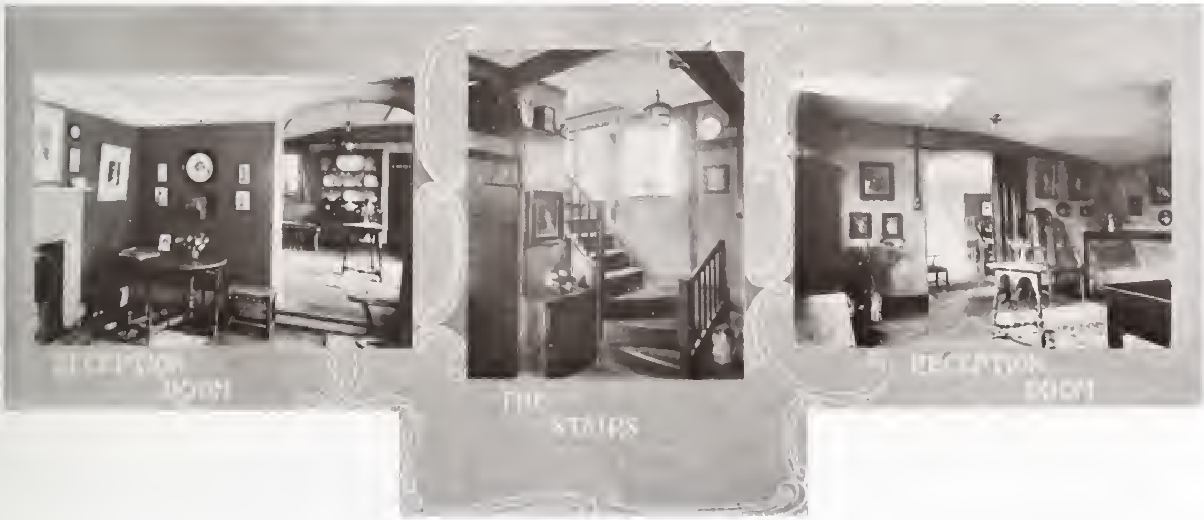
Such are the premises into which Miss Edmonds recently removed from 118, Westbourne Grove, which she found rather out of the way for the class of work she does. Children, we may remark, seem to appeal to her more than grown-up sitters, and one is inclined at first to say she has been very fortunate in her models; but on reflection it will more truthfully be said that they have been fortunate in their photographer. One or two of the most successful pictures have been obtained with the help of a white background.

It was *apropos* of one of these that Miss Edmonds told us a story which serves to show the superficial criticism of too many photographers. It hung on the walls of the New Gallery, and two professional photographers one Saturday afternoon stopped in front of it, looked at it for a moment, and then one said to the other, "Obviously blocked out." "Yes," said his friend, "but very well done, though." We can imagine the class of work produced by the photographer who could not tell the difference between a portrait with a white background and one with the hard cutting edge that blocking out would give.

But we must draw our description to a close, and are the more ready to do so, because we feel that the illustrations which we give of the place and of the work done in it will serve to convey a better idea of both than mere descriptive writing can do. In making our selection we endeavoured to make it as varied as possible, but could hardly help including two of one sitter, Miss Edmonds's favourite model, the charming little girl "Little Sorrow," on page 465. Miss Edmonds has planted herself down in the midst of a score of competitors. It only remains to add that in everything that can appeal to a cultivated taste, her work is well qualified to hold its own amongst them.



A drop't stitch. *By Miss Edmonds.*



The Labourer is Worthy of his Hire.

In this belief we publish the following brief account of the objects and benefits of the Photographic Copyright Union, with which its president, Mr. Frank Bishop, has supplied us. Its careful perusal, we feel sure, will be of profit to many professional photographers.

IGNORANCE of the law excuseth no man—except a lawyer; and then only when the law is obscure—which it sometimes is. But what excuse availeth the man of business who loses the profits he should gain and suffers the losses that should not have befallen him?

There is one Act, the provisions of which should be as household words to all professional photographers; but for the study of which it is to be feared little time is to be found in these days of strenuous competition. Time, indeed, may be brief, but the inclination may be even more fleeting; and to photographers who, for one reason or the other or none at all, fail to keep abreast of statute law and judicial decisions the Photographic Copyright Union offers to fill the deficiency and prevent the inevitable losses of ignorance.

Its objects may be summarised briefly: To secure and protect photographic copyrights—which is affirmatively the gain of legitimate profits; and to suppress piracies—which is negatively the prevention of loss. But its work is various in principle, and naturally flows into many diverse channels.

Tuning up (see page 462). *By Miss Edmonds*

It will act as the member's agent and register his work for him at Stationers' Hall for the bare out-of-pocket expenses beyond the nominal fee of one shilling payable under the Act. Two hundred and thirty-three photographs were so registered during the past year, in addition to searches made in the register and enquiries in relation to the same matters answered.

Any member has the privilege of referring to the Union the application of any publishers or others who may desire to copy or utilise his works; and it keeps a record of all licenses and permissions that have been arranged through their good offices. And in this connection it doubtless avoids the mistake into which so many business men fall—that of not expressing their agreements clearly so as to be beyond dispute. Last year, for instance, it arranged permission for a French marquise to use thirty-two photographs belonging to photographers in India; and the convenience of such a medium of communication in such cases does not require to be commented on. In addition, it will assist the member to dispose of his copyrights outright, and help in all matters in every possible way.

The establishment of minimum fees for reproduction is another of the Union's objects. Its rules provide that no member shall allow any copyright photograph belonging to him—and if any photograph is worth producing it is surely worth copyrighting first—to be reproduced at a less fee than half a guinea up to cabinet size, or a guinea for larger sizes up to and including 12 × 10 inches; on each occasion and for each different form or publication in which it is used. These are the fees for portraits or figure subjects, and the sizes mentioned are those of the reproduction, not of the original photographs. For landscape and public ceremonials the minimum fee is 10s. 6d. irrespective of size; while if the reproduction is in more than

Little Sorrow (see page 462) *By Miss Edmonds*

one colour the fees become doubled. Of course any member is perfectly at liberty to charge higher fees than those named, and indeed it is suggested in the rules that for supplements and advertisements or other such purposes he should do so.

Infringements afford another outlet for its energetic usefulness. It will investigate all cases brought by members to the secretary's notice, and if the essential preliminaries of registration appear to have been observed the solicitors of the Union report on the matter, and the committee, if deemed advisable, can then give instructions for action to be taken. If proceedings conducted by the Union result in penalties or damages being obtained, two-thirds of the net proceeds go to the member whose photograph has been copied and the remainder into the funds of the Union; but, of course, compensation can sometimes be obtained without legal proceedings, and then the member takes three-fourths and the Union one-fourth only. If no penalties or damages can be obtained by legal proceedings the Union bears half the expense, and in copyright cases of general interest the Union sometimes pays the whole of the costs.

Last year, to take a few examples, the Union was successful in stopping the sale in the United Kingdom of German postcards on which were unauthorised reproductions; in obtaining payment for infringements in a French newspaper; and in obtaining an apology and destruction of an enlargement that had been made without permission, and exhibited in a shop window. Advice and assistance as well as information were given during the same period in connection with copyrights in Canada and India; New Zealand and Trinidad; £20 were subscribed to assist a member in defending in the Court of Appeal a judgment he had obtained in the King's Bench Division.

The Union is organised on the usual lines of president, vice-president, treasurer, and honorary secretary with a secretary (Mr. Henry Gower), to whom at the postal address of the Union, 23, Soho Square, London, W., all enquiries should be addressed. The committee meets monthly or oftener if required, and the general meeting is held every year at the end of September or at the beginning of October.

And now comes the final question, How much is all this to cost the photographer? It is not much, and even of the little that it is, as the association is a mutual one, any margin that is over at the end of the year naturally goes to extend the sphere of its usefulness.

The annual subscription is half a guinea, and all photographers are eligible for membership. The work the Union is doing is a good one; it acts, we might almost say, as the "photographic policeman," and every photographer who is the owner of property in a negative or print is benefited directly or indirectly by its existence. That being so, it is surely the duty of every photographer to contribute his mite towards its support.

THE WEEK'S MEETINGS.

THURSDAY, DECEMBER 3RD.

N.W. London. Lantern Slide Competition.
Chelsea. Sandell Cristoid Film. F. Humpherson.
Ealing. Enlarging at Home with Inexpensive Apparatus. A. W. Green.
Darwen In the Moselle Valley with a Camera. W. Philips.
Tynemouth. Portraiture C. H. Hewitt.
North Middlesex. Fifteenth Annual Exhibition opens.
Richmond. Lantern Night.
Rontgen. A New Induction Coil, etc. Leslie Miller.
South Norwood. Platinotype Printing and Developing. —. Smith.
Liverpool A. Lantern Night.
L. and P. Open Night.
Isle of Thanet. Annual Exhibition in the Parish Hall.
Pudsey. Platinotype. J. Skilbeck.
Southport. Majorca. G. E. Thompson.
Watford C.C. Demonstration.
Rontgen Reversal. C. E. S. Phillips.
Dundee. Lies told by the Camera. J. Kirk.

FRIDAY, DECEMBER 4TH.

East Liverpool. Artistic Trimming and Mounting.
Watford P.U. Tour in Ireland. F. W. Hindley.
Boro' Poly. Enlarging. A. M. Usher.
Southampton. A Tour Round an Old Garden. A. Keighley.
Whitby. Night Photography.
Nelson. Visit to Colne.
Walsall. Lantern Evening, by Members.
Weymouth. Toning Bromide Papers. C. J. Gibbs.
Plymouth. The Royal and Salon Exhibitions, 1903. H. S. Hill.
Isle of Man. Lantern Night
Bromley. Tri-colour Process on Paper. T. K Grant.
West London. Development Improvement of the Negative. H Selby.
Reading. English Gothic Architecture, J. Mann and T. A. Coysh.
Aberdeen. Mountains and Glens. A. I. M'Connochie.

SATURDAY, DECEMBER 5TH.

East Liverpool Annual Competition.
Hull. Exhibition of Members' Prints and Slides closes.
Durham City. Hand Camera Photography. E. F. Wallis
North Middlesex Fifteenth Annual Exhibition closes.
Simpson Memorial Schools. Carbon Dr A. T. Lakin.
Edinburgh. With a Kodak in Cairo. J. A. C. Younger. Exhibition closes.

MONDAY, DECEMBER 7TH.

South London. Lecturette Prize Competition.
Bowes Park. Competition—Animal Life
Oxford. Trade Demonstration. W. F. Slater.
Ilford. Annual General Meeting.
Bradford. Lantern Slide Making. G. Bingley.
Kingston on-Thames. The Focal Plane Shutter and its Use. W. Kilbey.
Catford. Lantern Lecture. W. H. Shrubsole.
Walthamstow. Enlarging at Home. A. E. Green.
Widnes. Lantern Night
Stafford. The Rajar Changer and other Apparatus.
Burton-on-Trent Postcard and Christmas Card Competition.
Scarborough. Night Photography. E Kelsey.
Edinburgh. American Photographic Methods W. D. Young.
Working Men's College Retouching. A. Newton.
Newcastle-on Tyne. Hand Camera Photography. E. F. Wallis.
Bournemouth. Carbon Process. R. Y Banks.
Glasgow and West Intensification and Reduction. A. J. Garwood.
Dundee. Mounts and Frames.

TUESDAY, DECEMBER 8TH.

Halifax. Lantern Night.

TUESDAY, DECEMBER 8TH *(continued)*.

Goldsmiths' Institute. Open Night.
Thornton Heath Demonstration. Kodak, Ltd.
Hackney. Two Weeks in the Netherlands W. Rawlings.
Chiswick. Members' Lantern Evening
Blackburn. Lantern Slide Making. F. Whittaker.
Glasgow Southern. Intensification and Reduction. Lecturette.
Monklands. On Gaslight Printing Papers. J. Louden.
Leeds P.S. A Cruise in the Solent. Rev. G. Hudson Naylor.
Bedlington. Criticism of Members' Slides.
Darlington. Lecture. Wallis Bros.
Jarrow. Enlarging H. Wallis Wardropper.
Yeadon. Printing and Toning P O.P. G. Proctor.
Nelson. Fun in Pen and Pencil. H. Beetham.
Devonport. Notes on London Photographic Exhibitions. H. S. Hill.
Ashton-under Lyne. Photographic Exhibition opens.
Ulster Amateur. On Backing Plates. J. Brown.
Warrington. Hand Camera Work K. Bishop.

WEDNESDAY, DECEMBER 9TH.

Glasgow Eastern. Annual Exhibition closes.
Chester. Exhibition of Prize Competition Slides.
Croydon C.C. The Gum-bichromate Printing Process. Hugh Allen.
Leeds C.C. Hand Camera Work. E. F. Wallis.
Boro' Poly. Reminiscences F. W. Gregg.
Cricklewood. Lecture. Dr. E. M. Payne.
G.E.R. Mechanics' Institution. Carbon Printing. H. W. Bennett.
Balham. Bromide Work. A. B. Moss.
Hartlepool. Enlarging —. Gamlin.
North Middlesex. Technical Meeting.
Leicester. The Rajar Changer. Majorca. G. E. Thompson.

THURSDAY, DECEMBER 10TH.

Glasgow Eastern. Critique of Exhibition. A. Cochrane.
N.W. London. Sinop A. W. Penrose & Co.
Hull. Lantern Night.
Batley. Majorca. Elliott & Sons.
Rodley. Members' Portfolio.
Gateshead. Gum-bichromate Printing. C. H. Hewitt.
Richmond. Bees. — Oetzmann
Hastings. Lecturette Evening.
Leigh Enlarging of Prints and Negatives. Dr. H. Hall.
South Norwood Members' Lantern Slide Competition.
Liverpool A. Lantern Lecture. Messrs. Taylor, Taylor, and Hobson.
L. & P Demonstration. —. Brooker.
Bolton. Trade Demonstration. R. Hesketh.
Rugby. Intensification and Reduction. A. W. Fell.
Watford C.C. Christmas Card Competition.

FRIDAY, DECEMBER 11TH.

Leicester Lit. and Phil. Lantern Night. Rajar Changer. C. E. Rushworth
Boro' Poly. Trimming, Mounting, and Framing. F. W. Bannister.
Southampton Exhibition opens.
Whitby. Hand Camera Photography. Wallis Bros.
Walsall. Bromide Paper. W Bullock.
Weymouth. Trade Demonstration. W. F Slater.
Plymouth. Lantern Evening for Members only.
Wimbledon Lecture
Aberdeen Print Competition

SATURDAY, DECEMBER 12TH.

Durham City. Developing of Exposed Plates. A. B. Gardiner.
Ashton-under-Lyne. Photographic Exhibition closes.
Norwich Teachers' Field Club. Cloud Printing. G. A. Harrison.

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NOTICE TO CORRESPONDENTS.

All letters, advertisements, etc., must reach the office on Friday morning to ensure being dealt with in the issue for the next week. In cases of great urgency, letters delivered up to the first post on Tuesday morning may be in time to receive attention, but this cannot be guaranteed.

Communications for the Editor should be addressed, The Editor of *Photography*, 3, St. Bride Street, London, E.C.

In all publishing matters, letters, orders, etc., should be addressed, ILIFFE & SONS LIMITED, 3, St. Bride Street, London, E.C.

Advertisement copy and orders, and these only, should be sent to the printing works. They should be addressed ILIFFE & SONS LIMITED, Coventry.

LEADER

On Flashlight Portraiture.

At a well-known Lancashire society the other night, the discussion turned upon portraiture by flashlight—a seasonable topic; and from the remarks made by two or three of the members, who were evidently old hands at the work, quite a little handbook of what to do and what to avoid might have been compiled. We were particularly struck by the way in which two of the speakers at least urged the advantages of fast orthochromatic plates in this connection, expressing the opinion that with magnesium powder they gave results unmistakably superior to those obtained with the same exposure on ordinary plates.

The prevailing fault in the flashlight pictures which are most often seen is harsh lighting, due to a totally unnecessary concentration of the light. This is often made a good deal worse than it need be by the use of an insufficient quantity of magnesium. If the aim is to get a good photograph there should at least be no stinting of the light. It is surely better to waste a little magnesium and get a good result than to waste magnesium, plate, and labour by getting a bad one.

But it is not by any means sufficient to get what seems to be enough magnesium, and blaze it all off at once and in one spot. The result is an altogether unnatural form of illumination, intense bright spots, glaring sitters, and heavy weird-looking shadows. These effects are reduced by spreading the powder or lamps about, but the remedy is often nearly as bad as the disease, and instead of one set of heavy shadows we get two or three, while the high lights in the eyes and elsewhere are duplicated, or triplicated.

A much better plan is to have the powder concentrated, but to interpose between the flash and the sitters as big and as translucent a screen as can be arranged. One of the best that we have seen was made by stretching two yards of extra wide tracing paper on a light wooden frame. This was supported vertically a couple of feet in front of the powder, and effected its object of diffusing the light very well, with a minimum of absorption of useful rays. Thin tissue paper also makes an excellent diffuser, as do some of the finer kinds of muslin.

Then, again, the light is put too low down. It will be found as a general rule that it is better if it fall upon the sitter in a direction about halfway between the floor and immediately over his head—in other words, at an angle of about 45° with the vertical. Of course, a hard and fast rule to this effect must not be laid down. "Circumstances alter cases," but it would be well to bear in mind the fact that an unpleasant effect is generally produced when the light is too low. If it is too high, the result is equally bad; but this fault is not common.

The use of a diffuser must inevitably cause the loss of a certain quantity of the light, and this must be allowed for; but the illumination obtained with it, properly adjusted, is far superior to that which is got by any other method. The commonest plan of having two separate sources of light is altogether bad. With one powerful flash, suitably softened in the way we have indicated, it is quite possible to do work which in no way betrays the fact that flashlight has played a part in its production.

Beginners in flashlight work generally go wrong by their efforts to go right. They argue that the comparative weakness of the light must be guarded against in every possible way. Hence they use the largest aperture of their lens, suitable or unsuitable in other respects. They may perhaps employ extra rapid plates with the behaviour of which they are unfamiliar, and they endeavour to "get the most out of the plate" by those grotesque expedients of developer modification which are responsible for more spoilt plates even than the exposure difficulty.

The prevention of these troubles is easy. We do not say that slow plates should be selected, or the lens stopped down unnecessarily; but we do say that the usual procedure should not be altered to compensate for insufficient lighting, but that this should be remedied by increasing the power of the flash.

Spirit of the Times

TO PROFESSIONAL PHOTOGRAPHERS.

On another page we reproduce a photograph of the *Photography* Challenge Cup, which is given by the proprietors of *Photography*, to be held by the professional photographer who submits at the close of the year such a selection of his work as shall be considered by the judges to be the best sent in. We cannot state again the conditions under which it is given, but they are mostly summed up in the statement that the work must be in our hands by December 31st, and must be in every way a faithful replica of actual prints turned out in the ordinary course of business.

* * *

BROMIDE ENLARGEMENTS AT THE NORTH MIDDLESEX.

A noteworthy fact at the North Middlesex Photographic Society's exhibition, opened this week, is the comparative preponderance of bromide enlargements over prints by other processes. At one time this preponderance of bromide prints was noticeable at most exhibitions, but gradually diminished in favour of carbon and platinotype. It would be interesting to know to what the recrudescence is due, and to what extent it takes place in other exhibitions. The growing use of the hand camera in its many forms is probably the main factor, in conjunction with the ease and economy experienced in enlarging upon bromide paper, as compared with making large negatives in the camera. Coupled with this is the entire absence of anything approaching gloss in modern papers. Recent improvements in the toning of such prints doubtless also plays a part in the change, as we note that many of the prints are brown and sepia.

* * *

THE CHRISTMAS NUMBER.

The Christmas Number of *Photography* will be published before this issue comes before our readers. It marks to some extent a departure from its predecessors, which have always made a feature of the reproduction of the leading pictures of the year on a large scale, and with a certain quantity of critical matter. This wide field, which the character of the former *Photography* and the nature of its printing compelled us to leave untouched in our weekly issues, is now dealt with in them, and our "Pictures from the Two Exhibitions" (a further instalment of which we give this week) has rendered it unnecessary to discuss the same subject in the Christmas Number. Instead of that, therefore, it deals with "Landscape in Pictorial Photography," by "Fecit"; "The Characteristic Use of the Hands in Portraiture," by F. H. Evans; "The Work of a Photographer of Winter (Mr. W. Rawlings)," by "Monochrome"; and "Notes on Photography in a Wood," by Will A. Cadby. In addition to these, all of which are very fully illustrated, our friend the "Walrus" gives us a chapter of reminiscence, and another writer whose identity is not disclosed tells of Mr. Pettifer's experiences of winter photography. We have endeavoured throughout to keep the Christmas Number as light in character as possible, and to make it like its predecessors—a record of the highwater mark of half-tone reproduction in 1903, and as such we commend it to our readers.

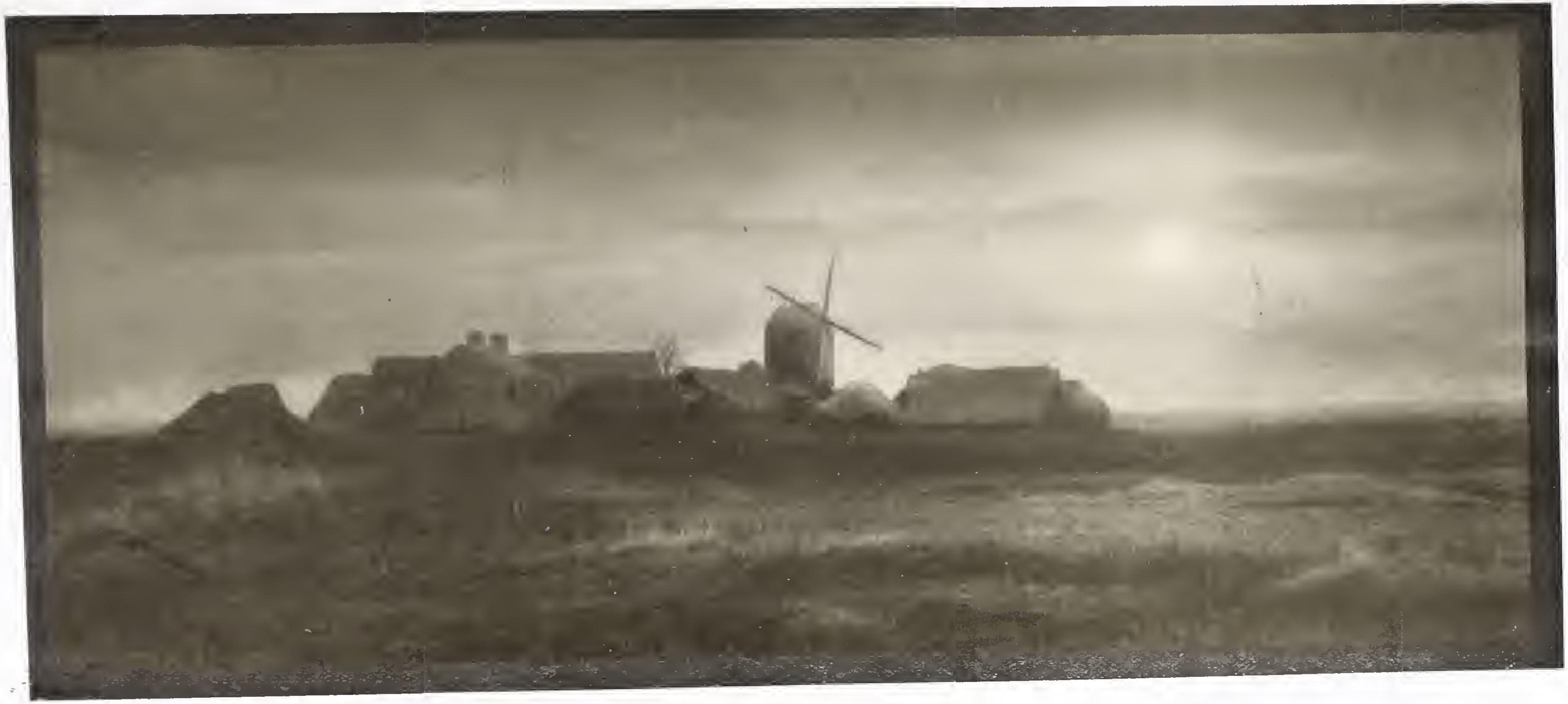
* * *

THE LAND OF THE MOOR AND THE DON.

Spain will attract the traveller and Granada be its crown as long as the adventures of Don Quixote are read and Washington Irving holds his place in English literature. We may forget the incidents and the sequence of the marches, countermarches, sieges, and battles in Spain, that marked the struggle in which we were engaged in the beginning of the last century, but the chivalrous Don's fictitious wanderings are fresh in our memories, and the American author's description of the Moorish palace is a fairyland in which we never lose our way. Mr. W. J. B. Halley has been entertaining the Glasgow and West of Scotland Amateur Photographic Association with an account of his travels with the president of the association through Spain and in Tangiers. From all points of view, both the country from which the Moors were expelled and that which they now inhabit are eminently suited for photographic work. The quotation made by Mr. Halley from an American visitor to Morocco that "you feel as though you had been taken up by the scruff of the neck and let down into the Old Testament" exactly meets the case. The holiday-making photographer will find probably no better lands for prospecting in than the peninsula and the northern coast of Africa.

FORTHCOMING EXHIBITIONS

SOCIETY.	OPENS.	ENTRIES CLOSE.	SECRETARY.
Dalziel Bazaar	December 10	November 28	James Dunlop, Myrtle Bank, Motherwell, N.B.
Ilford Church Bazaar	December 10	November 30	J. O. Watson, 164, Wellesley Road, Ilford.
Southampton P.S	December 11	December 2	S. G. Kimber, Oakdene, Highfields, Southampton.
Chicago S A P.	December 29	December 15	Society of Amateur Photographers, The Art Institute, Chicago.
Wishaw and District	December 30	December 14	T. Peat, 75, Hill Street, Wishaw.
Liverpool A.P.S. Slides	—	January 30	E. Simnett, Percy Buildings, Eberle Street, Liverpool.
Sefton Park P.S.	January 5	—	H. E. Cubley, 3. Langdale Road, Liverpool.
Corn Exchange A.P.S.	January 13	December 31	J. H. Mitchener, 1, Seething Lane, E.C.
Burnley C.C.	January 21	—	B Slater, Wood Nook, Burnley.
North West London P.S.	February 11	January 28	J. S. Fairfoull, 13, Addison Road, Walthamstow.
Scottish National	February 13	—	John B. Maclachlan, *Dundee Courier*, Blairgowrie.
Birmingham P.S.	February 27	February 22	L. Lloyd, Hollies, Church Road, Moseley, Birmingham.
Cripplegate P.S.	February 29	—	G. H. Depledge, 17. Hazeldene Road, Goodmayes, Chadwell, Essex
South London P.S.	March 5	February 20	W. C. Marshall, 41, Glendon Road, Lee, S.E.
Brechin P.A.	March 5	February 13	J. Kirk, 1, Infirmary Street, Brechin.
Nottingham C.C.	March 9	—	Arthur Black, 9, Bowers Avenue, Nottingham.
Brentford P.S.	March 15	March 3	F. H. Read, Clifden Road, Brentford.
Northern	March 25	March 11	C. F. Inston, 25, South John Street, Liverpool.
Cape Town P.S.	April 4	March 13	A. J. Fuller, P.O. Box 750, Cape Town.
Croydon C.C.	April 6	—	H. M. Bennett, Alipore, Duppas Hill, Croydon.



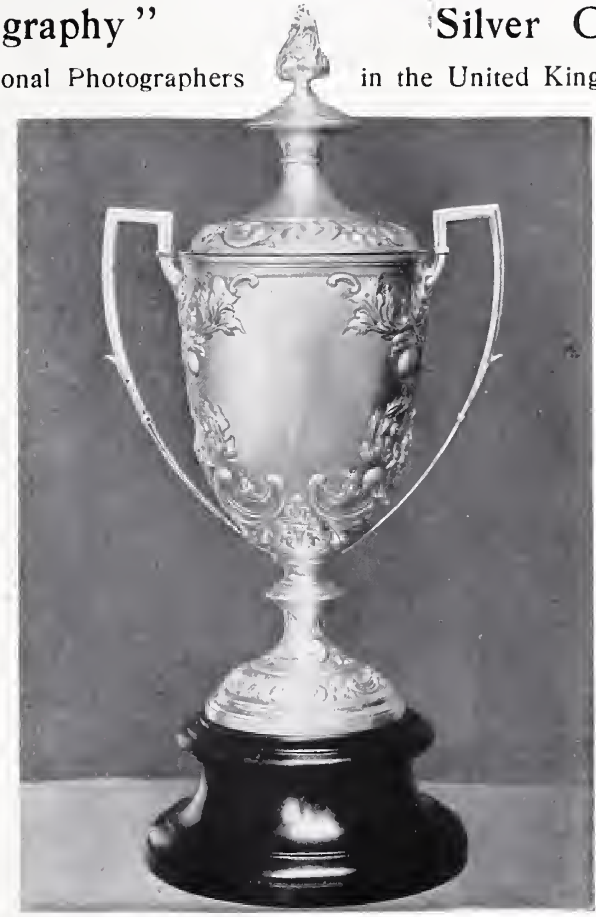
FENLAND. ("Pictures from the Two Exhibitions," No. 45 (see page 471.) BY JOHN H. GEAR.

THE OLD CHEST. BY W. GILL.

Pictures from the Two Exhibitions." No. 16, see page 471.)

The "Photography" Silver Challenge Cup.

For Professional Photographers in the United Kingdom.



THE handsome cup which is shown here is one which has been placed by the proprietors of *Photography* at the disposal of professional photographers in the United Kingdom. The present holder is Mr. T. Fellows Wilson, of 57, Bedford Gardens, Kensington, London, W., to whom it was awarded in the competition which closed on December 31st, 1902. Full particulars, rules, and entry form have been sent to all professional photographers, and a duplicate entry form is issued as a supplement with this number of *Photography*.

As will be seen on reference thereto, the competition is limited to work produced during the year 1903, in the ordinary course of business, by professional workers, who alone are eligible to compete. At the end of the year, should the holder not succeed in retaining the cup, he surrenders it and receives in return a medal commemorative of the fact that he has won it.

Although last year was the first year the cup was offered, competition for it was very keen, and a great deal of very fine work was submitted to the judges. Everything points to still keener competition being the case this year.

Will our professional readers note that:

All prints must reach us by January 1st, 1904.

They must have been produced during 1903.

They must be identical in all respects with work actually supplied during that year to customers.

PICTURES FROM THE TWO EXHIBITIONS

THE ROYAL PHOTOGRAPHIC SOCIETY & THE SALON

The pictures which, by the courtesy of the exhibitors, we reproduce this week are:

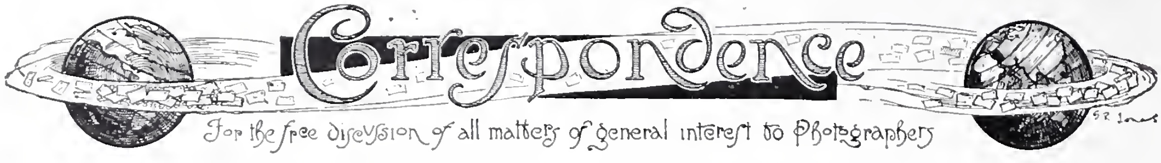
45.—Fenland. By John H. Gear, 101, Great Portland Street, London, W. (No. 144 (Medal) R.P.S., 14in. x 6in., 50s.)

46.—The Old Chest. By W. Gill, Head Gate, Colchester. (No. 26 R.P.S.)

47.—Norman Work—A Contrast. By Rev. H. R. Campion, Barton Square, Ely, Cambridge. (No. 348 R.P.S., 7¾in. x 5¼in., 25s.)

48.—A Serious Matter. By Miss Constance H. Ellis, Summersbury, Shalford, Surrey. (No. 123 Salon, 14in. x 11½in., £2 5s.)

We have given the addresses of the exhibitors themselves this week, as the exhibitions are now closed. When a price is given it is for the picture framed, as exhibited, the sizes being the dimensions of the print excluding frame and mount.



Correspondence

For the free discussion of all matters of general interest to Photographers

The Editor is not responsible for the opinions of his correspondents.

POSTCARDS FOR PROFESSIONALS.

Sir,—Your contributor, Mr. S. L. Coulthurst, in the last issue of *Photography*, states that pictorial postcards printed from half-tone blocks in the small way may be dismissed, as unless very good blocks can be secured, and these can be printed by one who understands the treatment required by high class blocks on card, disappointment can only result.

His emphasis upon the necessity of careful printing of all good blocks is fully justified, but this is hardly a reason for "dismissing" the subject. May we be permitted to say that we make a feature of supplying high-class, fine-grain, half-tone blocks, and that, including printing, the cards cost less than Mr. Coulthurst gives for collotype cards.

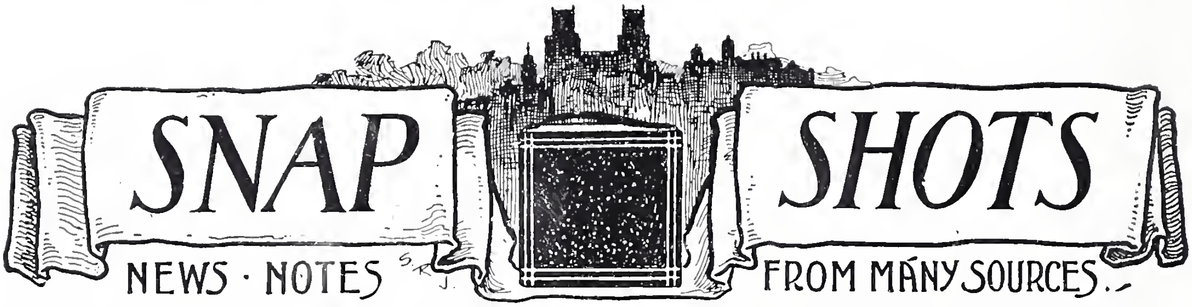
Mr. Coulthurst very rightly takes a thousand cards, each of six different kinds, as a basis, and these in collotype he works out at 18s. 6d. per thousand, or £5 11s. for the six thousand.

Our price for six best quality half-tone blocks from good originals, suitable for use on an ordinary sized card, is 9s. 6d. each. The cost of printing six thousand cards, a thousand from each block, would be about £3. Putting the whole price of the blocks on the first thousand cards, this would bring their cost to £5 17s., as against £5 11s. for collotype, while repeat orders, so long as the blocks were not worn out, would only cost £3 for the six thousand. If proper care were taken of the blocks, they should each be good for from fifty to sixty thousand cards.

May we be permitted to draw attention to the fact that the cards reproduced in the last issue of *Photography* were from blocks of our manufacture, and although, of course, the printing of such blocks on cards is a very different matter from the printing on paper such as is used for *Photography*, still we think the reproductions may be taken as a good instance of the class of work we turn out. We can only add that if any of your readers are thinking of taking up this matter, we shall be pleased to give them special detailed quotations in any cases where the circumstances are different from those which we have given above. Yours, etc.,

THE BRITISH PHOTO-ENGRAVING CO.

Vicar Lane, Coventry.



SNAP SHOTS

NEWS · NOTES FROM MANY SOURCES.

THE VELVO-TINT OUTFIT of Messrs. J. Barnard and Sons, of 19, Berners Street, W., contains eight different colours instead of six as stated in our notice of Nov. 21st.

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THE EDINBURGH PHOTOGRAPHIC SOCIETY held its third annual dinner at the Carlton Hotel on the 18th ult. The usual loyal and society toasts were proposed, and songs and instrumental music followed the dinner, in which the national haggis made its appearance.

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THE EASTMAN KODAK COMPANY, of New Jersey, U.S.A., has declared a dividend of one and a half per cent. (being at the rate of six per cent. per annum) upon the outstanding preferred stock of the company, and a dividend of two and a half per cent. (being at the rate of ten per cent. per annum) upon the outstanding common stock. They are payable on January 1st, 1904, to stockholders of record at the close of business on the 30th of November, 1903. The transfer books of the company are closed from November 30th to December 31st.

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THE SUNDERLAND PHOTOGRAPHIC ASSOCIATION, founded in 1888, held its first open exhibition from the 18th to the 21st ult. The exhibition was divided into four sections—champion, open class, members' class, and lantern slides. The Loan Collection from the Royal Photographic Society was also on view. The judges, Messrs. F. M. Sutcliffe and Alex. Keighley, made the following awards: Champion gold medal—W. Crooke. Open class—Gold medals to G. Bowley and A. G. Peek; silver medal, F. Dent; bronze medals to P. W. Crane, J. C. Warburg, A. Marshall, and W. A. Clark. Members' class.—Silver medals to H. Bradwell, W. Milburn, jun., and P. Craig; bronze medals to C. T. Cothay, J. H. M. Taylor, and C. W. Laing; C. T. Cothay and W. N. Bartram received honourable mention. Lantern slides.—Silver medals to T. Parkinson and G. A. Booth; bronze medals to R. W. Harvey, Graystone Bird, F. Marsh, H. Wade, and W. A. Clark.

THE TRAILL TAYLOR MEMORIAL LECTURE will be delivered by Sir W. Abney at the rooms of the Royal Photographic Society on the 14th inst. at 8 p.m., the subject being "Some points connected with landscape three-colour photography."

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THE HUNTINGDON Amateur Photographic Society's exhibition was held on the 18th ult.; when the judges, the Rev. Hedley Vicars, the Rev. B. Holland, and Mr. A. E. Jennings, made the following awards: Class I. (architectural prints).—First, S. Rout; second, Rev. G. R. Holt. Class II. (landscape).—First, S. Rout; second, B. Allen. Class III. (three small prints).—First, E. T. Smith; second, H. Goggo; third, Rev. G. R. H. Shafto. Class IV. (instantaneous)—First, S. Rout; second, H. Dawson. Class V. (picture postcards)—First, E. T. Smith; second, S. Rout; third, B. Allen. Class VI. (lantern slides).—First, Rev. G. R. H. Shafto; second, J. W. Tysoe; third, S. Rout.

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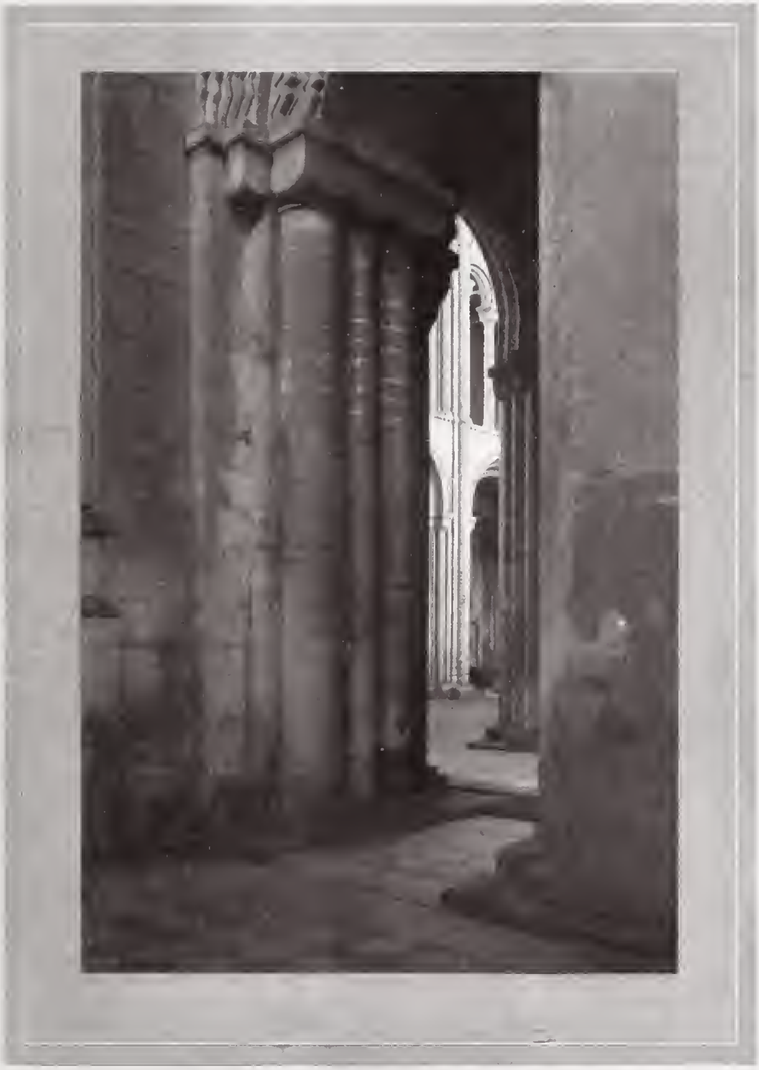
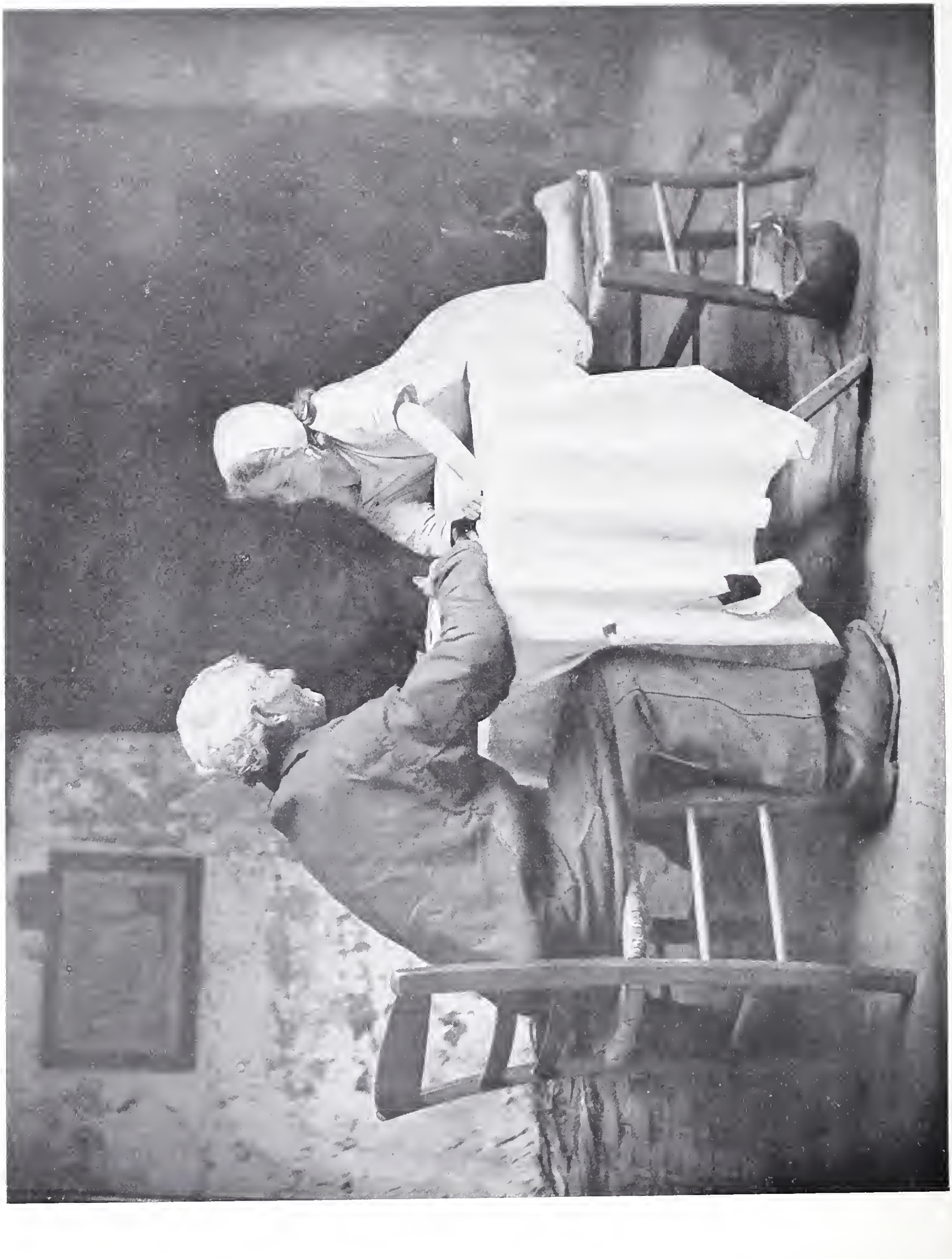
AT THE TUNSTALL AND DISTRICT Photographic Society's exhibition on the 17th ult., the judges, Messrs. J. Page Croft and Frank G. Jackson, made the following awards: Open class A.—Silver medal, J. B. Johnson; bronze medal, W. Clayden; certificate, J. C. Warburg. Open class B.—Silver medal, Mrs. G. A. Barton; bronze medal, F. W. Hicks; certificates, J. Smith, J. C. Warburg, and Miss A. Warburg. Class C.—Silver medal, T. Warham; bronze medal, J. R. Capey; certificate, Miss Meigh. Class D.—Silver medal, W. H. Foxall; bronze medal, J. R. Capey; certificates, R. S. Harding and E. B. Wain. Class E.—Silver medal, C. J. Eardley; bronze medal, W. H. Foxall; certificate, W. H. Walley. Class F.—Silver medal, W. H. Foxall; bronze medal, J. R. Capey; certificate, E. B. Wain. Class H.—Bronze medal, W. Bould; certificate, W. S. Hollinshead. Class G.—Silver medal, E. B. Wain; bronze medal, W. H. Foxall; certificate, J. R. Capey.



NORMAN WORK—A CONTRAST. BY REV. H. R. CAMPION.

("Pictures from the Two Exhibitions," No. 47, see page 471.)



A SERIOUS MATTER. BY MISS CONSTANCE ELLIS.

("Pictures from the Two Exhibitions," No 48, see page 471.)

LANTERN SLIDE MAKING

BY G. T. HARRIS.

CHAPTER IV.

Toning Slides on Commercial Plates—Toning Warm-coloured Images with Sulpho-cyanide, Platinum, and Gold—Toning Black-coloured Images with Copper and Uranium Baths—Bath for a Green Colour—Reducing Lantern Slides—Intensifying Them.

In preparing to discuss the subject of toning lantern slides made on ordinary gelatine lantern plates, I must confess to having rather a decided bias against the operation. My opinion is that the finest slides are those in which the exact colour is obtained by development, and I believe experienced workers incline to the same opinion.

When toning lantern slides there is always some danger of the gelatine becoming stained by the toning agent; in which case the high lights, which should be absolutely transparent gelatine, have their original purity degraded by the ground colour of the slide. This fault is especially noticeable when toning slides with the uranium and ferricyanide toning bath. Unless very great care has been exercised a brown tint pervades the whole of the slide where clear gelatine should exist, due to the toning agent having *stained* the gelatine at the same time that it toned the image.

Many, if not all, toning processes have, at the same time, a slight intensifying action, and this intensification makes itself unpleasantly apparent when the slide dries, as the shadows usually become very heavy, losing the transparency one usually finds in slides that have not been subjected to toning operations.

Slides will either be toned from a black to a warm colour, or *vice versâ,* and the most satisfactory results in toning are those obtained when a warm-coloured image is toned down towards black. If black images are toned to a very warm colour the decided change is often accompanied by loss of quality, due to the length of time occupied in toning, or to the strength of solutions employed.

To tone a warm-coloured image to darker colours, platinum, gold, sulphocyanide, and palladium may be employed; while, to tone a black image redder, one has to employ either copper or uranium ferricyanide, unless the image is converted into some haloid and again developed. Of these various toning agents the platinum bath for dark colours and the copper ferricyanide for warm colours are the most satisfactory.

A sulphocyanide toning bath, similar to that used for prints, may be employed to tone a warm-coloured image, but the colour of the slide, if toned too far, becomes purplish black, and it is questionable whether such a colour looks well in a lantern slide. "Photographic purples," as they have been described, are best confined to silver prints, as the instances in which they suit the subject rarely occur in lantern slide work.

The following formula may be used when a sulphocyanide toning bath is wanted:

Ammonium sulphocyanide ...	60 grains
Gold tri-chloride	5 ,,
Water	16 ounces

The gold should be dissolved in half the amount of water given, and the sulphocyanide in the remaining half, the solution of gold being added slowly to the sulphocyanide solution, stirring this all the time.

Some form of platinum bath is a very good toning agent for lantern slides, though a mixture of gold and platinum behaves even better. It should be noted that potassium chloro-platinite is the particular salt recommended, and not platinum bichloride. This latter salt is often quite acid with hydrochloric acid, and requires neutralising first with some alkali and then reacidifying with nitric acid. If potassium chloro-platinite is used no trouble will be experienced.

I have found that the formulæ usually given for platinum toning baths are too weak, requiring an inconveniently long time before any marked change is effected. The following bath is much more concentrated than usually recommended, but gives very good results in my hands.

Potassium chloro-platinite ...	5 grains
Gold tri-chloride	5 ,,
Hydrochloric acid ...	10 minims
Water	5 ounces

Platinum toning, if carried very far, intensifies the image slightly, so that should an attempt be made to tone a red coloured slide quite black the slide might be found worthless on drying from the adventitious opacity acquired in toning. The most suitable slide for toning is one devoid of any great shadow masses, and one which wants just a little additional density to make it a perfect slide.

The following modification of the gold-platinum bath is very convenient, as with it the increase of density is scarcely noticeable:

Sodium phosphate	50 grains
Gold tri-chloride	5 ,,
Potassium chloro-platinite ...	5 ,,
Water	5 ounces

This bath must be used fresh, and will not keep. Toning with it is very rapid, but a pure black colour is not readily procurable.

Toning slides from black to warm is less easy than the foregoing, as considerable intensification follows, besides the alteration of colour. Copper toning appears to give better results than uranium, as the staining of the gelatine previously referred to when speaking of uranium toning does not take place. Mr. Ferguson, who has done a large amount of experimental work in copper toning, recommends ten per cent. solutions of copper sulphate, potassium ferricyanide, and neutral potassium citrate. To prepare the toning bath we take:

Cupric sulphate (ten per cent. solution)	140 minims
Potassium ferricyanide (ten per cent. solution) ...	120 ,,
Potassium citrate (neutral) (ten per cent. solution)...	4 ounces

The potassium citrate is added to the copper sulphate, and then the potassium ferricyanide is poured in, when a clear green solution results, which keeps well and tones readily, without staining, from purple-black to red.

Uranium toning is less satisfactory than copper owing to its liability to stain. As, however, beautiful results can be obtained with careful working by the process, I do not feel justified in excluding it from notice. The exact strength does not seem of much importance, a stronger solution merely working quicker. The following is a convenient strength:

Potassium ferricyanide ...	5 grains
Uranium nitrate	5 ,,
Acetic acid (glacial) ...	1½ drams
Water	2 ounces

After toning, the slide is washed in running water for about ten minutes. Care has to be taken not to wash too long, otherwise the brown colour is washed out, leaving the image in a very unsatisfactory condition. Uranium-toned slides should be varnished when dry to prevent fading.

Although I cannot recommend uranium toning for lantern slides, especially to an inexperienced worker, I must add in its favour that I have obtained excellent slides by its employment, and slides that have undergone no change when protected from the air by being varnished.

A very pleasant bluish-green colour may be given to a lantern slide that has been toned brown with the uranium toning bath if it is well washed and immersed in the following:

Hydrochloric acid	20 minims
Iron perchloride solution ...	10 ,,
Water	5 ounces

The colour obtained is very suitable for foliage subjects, but as the gelatine is stained throughout the slide any subjects with masses of high lights do not look well. The green colour, however, can be discharged from any portion of the slide by treating it with a weak solution (say twenty per cent.) of ammonia. Thus, the sky portion, where the stain shows most objectionably, can be cleared. Again, a slide, having been toned brown with uranium, can have certain portions of it toned green by applying with a camel-hair brush the iron solution given previously; in this way a slide in two colours results, and some subjects look very effective when done in this manner.

In spite of the variety of results that can be obtained by toning methods, I would urge upon the lantern slide worker to devote all his care to gaining a high-class slide by the unsophisticated process of development.

Reducing and intensifying methods are of greater importance than toning formulæ. However expert and careful one may be, a certain proportion of his work will always be the better for readjustment in one direction or the other. Either some portion of the slide is over dense and requires reduction locally, or the whole slide would be better for just a trifle more opacity. Lantern slides, unlike negatives, require their opacity to be exact, or the effect when they are projected upon the screen is unsatisfactory.

The reducer introduced by Mr. H. Farmer is particularly useful in slide work if not used too strong. One and a half grains to the ounce is quite strong enough, though for local reduction of dense portions this may be slightly exceeded. The most convenient way of making up this reducer is to keep a ten per cent. solution of the potassium ferricyanide made up and to add ten or twenty minims of this to each ounce of water. The amount of hyposulphite left in the film and upon the surface of the plate when it is removed from the fixing bath is quite sufficient to effect reduction, though after reduction and a good rinse the plate may be replaced in the fixing bath for some minutes with advantage.

A good lantern plate with suitable developer should, on being removed from the fixing bath, show perfect freedom from any surface marks or deposit, except that which forms the image. Occasionally, when developing for warm colours, an irregular white deposit occurs on the film. This may be removed by washing and rubbing slightly with a tuft of cotton wool, but the ferricyanide reducer is much simpler and safer. A weak solution is flowed over the plate two or three times, just long enough to remove the deposit without reducing the image.

A reliable intensifier is especially useful when making slides having warm colours, as these slides are not easy to obtain of the exact density. The following formulæ may be relied upon to give perfectly satisfactory results without the least influence upon the colour:

A.	Hydrokinone	20 grains
	Citric acid	20 ,,
	Distilled water	20 ounces
B.	Silver nitrate	20 grains
	Nitric acid	5 minims
	Distilled water	20 ounces

Equal parts are taken to form the intensifier. The plate should be well washed after fixing and placed for some minutes in an alum bath, and again well washed before intensification. As the intensified slide when dry is somewhat denser than it appears when wet, allowance must be made for this and intensification stopped somewhat short of the required degree. The plate is rinsed thoroughly under the tap after intensifying and placed in the fixing bath for a short time to remove any silver chloride that may have been precipitated in the film.

Another intensifier of considerable value to the lantern-slide maker is that of MM. Lumière. The formula is:

Sodium sulphite ...	1¼ ounces
Mercuric iodide	30 grains
Water	6 ounces

The slide on leaving the fixing bath is well rinsed and flowed over with the above intensifier when density soon accrues. After a good washing, the slide is redeveloped with some developer such as amidol, etc.

STUDIO NOTES AND JOTTINGS by "Professional."

THE PICTORIAL POSTCARD.

THE introduction of new photographic processes, or the cheapening of old ones, newer and cheaper methods supplanting the older, must have a disturbing influence on the course of trade. A striking example of this was the killing of the collodion transfer by the bromide paper process. The highly coloured collodion transfer some years ago was the most popular form of enlargement and was to be seen in every photographer's window. I doubt now if a specimen could be found in any studio. Bromide paper has completely taken its place—it is cheaper and far easier to manipulate. In its effects on all departments of business, bromide paper has been most unsettling, having already changed the trade in enlargements and views, and led to a great reduction in their selling price An enlargement in carbon or platinum must always command a fair price, and so must a view printed in silver, or in one of the former processes. Cheapness, however, is apt to conquer all other advantages, especially when, as in the present case of bromide prints, the cheap article has some superior qualities. Its latest application to the pictorial postcard now threatens to destroy the trade in portraits of celebrities. The public are satisfied with the postcard portraits of their favourites, which they can purchase at a penny each, and are not likely, therefore, to pay the professional's 1s. 6d. or 2s. for a cabinet. In the face of such competition, the trade in portraits of celebrities will not flourish, and it remains for the photographer to look for his return from an adequate copyright fee for the right to use a portrait on the postcards, and to make these a remunerative part of his business.

The Dancing Lesson (see page 462). *By Miss Edmonds.*

THE TARIFF PROBLEM.

I HAVE no intention of dealing with politics in these "Notes and Jottings," since the party press is well able to attend to the subject, and because I suspect that the reader, like myself, is glad when taking up *Photography* to escape from the monotonous round of free trade, protection, and imports and exports, in which we have become involved. In the event of any change being made in our fiscal policy it will become imperative on every professional to consider his position, and to ascertain if his interests are damaged. Viewing the question impartially, if such a view is possible to one interested, I am compelled to admit that whatever happens the professional will be able to hold his own very effectually. As a purchaser of photographic material he is less dependent on foreign manufacturers than any other section of the trade, his main item of this kind being mounts of French origin. An import duty would thus affect but a very small proportion of his foreign consumption. A much more serious factor would be the promised rise in wages. Wages form the chief item of expenditure in producing photographs, and should they rise ten or twenty per cent. the photographer would have to face a decline in profits. To meet these increased expenses he would be compelled to raise his prices. Still from the example of America this would make little difference if wages generally advanced as they have done there.

THE DENSITY OF NEGATIVES.

THE density of their negatives is a matter which photographers are apt to disregard, imagining that any defect can be put right in the printing. On this view the thin negatives can be corrected by printing under tissue paper in the shade, and the dense ones by printing in strong sunlight. To an extent some correction can be made by such means, but it must not be overlooked that an abnormal negative is not convenient in comparison with a normal one. That is to say, a negative of average density is much easier to work, and can be applied to every printing process with success. The theory that every printing process should have a negative of special character is a very pretty one, and may be correct when taking extremes; practically, it does not work out so satisfactorily. Printers do not favour the "characteristic" negative, preferring one of normal density, which can be used with any process from P.O.P. to carbon. So impressed are some photographers with the fact that the right negative will give the best prints by any method that they keep a standard negative which is shown to their assistants as a guide for exposure and development. Such a standard is an excellent means of keeping the density of negatives uniform.

DOES ART PAY?

THE close observer of the progress of professional photography must have noticed that within recent years two movements have been taking place which are possibly related as cause and effect, and are changing the whole character of portrait photography. The first of these is the growth of the artistic ideal, and the consequent infusion into studio portraiture of the artistic element. This began with imitations of the works of Gainsborough, Reynolds, Lely, and the English school of portrait painters by the platinum process as engravings, though it has now passed from the stage of imitation to originality. The best examples of studio work which have lately been published in *Photography* cannot be identified with any previous school of painting, because they are the work of those who have applied directly the first principles of pictorial composition. It follows that art now receives the serious attention of photographers, and that they do not depend on the technical merit of their productions for gaining the public support. The second change to which I refer is the decrease in the size of the average photographic business. The *typical* business of to-day is commercially a very small affair, being entirely under the direct control of the owner, and independent of assistants, beyond a printer and one or two finishers. The principal does his own studio work, and neither invites nor desires an excess of sitters.

PROOFS.

SITTERS expect to receive a proof before giving an order, as much to obtain the opinion of friends as for their own satisfaction. The submittal of proofs is thus a necessary part of every photographic business; the practice gives rise to much extra work, but all things considered it is to the photographer's advantage. When approved he knows that his clients appreciate his efforts, and will continue to give him support, and the proof also provides the means of obtaining an increase in the original order. The management of proofs is a most important part of the commercial side of a business, and should receive careful attention. The rough, untouched, untoned proof which some photographers submit on the grounds of economy is a complete mistake, for it will repel rather than attract custom. Every proof should be finished in the best style, being made as attractive as possible. In the long run the rough proof will be found far from being an economy. To economise in plates is also a mistake, for, even if every negative taken is not printed from, the photographer can select the best pictures. He thus has a first choice, and need finish only those positions which give the most pleasing view of the sitter. We know that every picture of a sitter is different in expression and likeness, and that a dozen negatives of the same person will all vary. It may happen that a single exposure will result in the best and most characteristic likeness, more often it requires three or four exposures. To obtain the full advantage of the proof system at least four negatives should be made of each sitter, these being closely examined by the operator, and only those finished which do justice to the sitter. Rarely will the whole number be good in expression, and with very nervous sitters possibly but one will be worth finishing.

The Mirror (see page 462.) *By Miss Edmonds.*

Acetone Sulphite in Intensifying.

The mercuric chloride bath, as is well known, converts the negative into a white mercury-silver chloride, which is reblackened with ammonia or sodium sulphite. When the latter is used, some of the silver chloride is dissolved by it, and the intensification may be somewhat lessened. If instead, we employ a ten per cent. solution of acetone sulphite, according to a recent communication by Dr. Hauberisser, the image is blackened just as well, but as silver chloride is less soluble in it there is no such diminution.

The Cost of Sulphur Toning: A Letter from Mr. Blake Smith.

A well-known firm supplying large quantities of toned bromide prints and enlargements has been in communication with us on the subject of the cost of the Iodine-Potassium Iodide method. The substance of their letters having been discussed between ourselves and Mr. Blake Smith, he has sent us the following.

Sir,—Referring to our conversation of the other day, I think there must be a misapprehension about the cost of the iodine bath in the mind of your correspondents. I calculate that the actual amount of iodine used up in bleaching a 12in. by 10in. enlargement is not more in cost than one farthing, and is probably a little less. The solution when it becomes weak can be replenished with fresh solid iodine, thus saving potassium iodide.

I worked myself with an incomplete bleaching solution (potassium ferricyanide) for some time, and found that, though the results were generally all right, too often they were not, being spoilt by uneven toning. The only method by which we can be sure that bleaching is even is to see that it is complete.

If the proprietors of bromide enlarging works wish, on the score of cheapness, to try some other solution, the following may serve:

Potassium bichromate	2 grains.
Concentrated sulphuric acid	5 minims.
Sodium chloride	30 grains.
Water ... ... to	1 ounce.

Or a more concentrated solution can be employed. I must strongly urge all photographers who are not influenced by the question of cost, however, to stick to the iodine solution.

If with very large dishes—say, 3ft. by 2ft. or so—the iodine solution is irritating to use, the remedy is simple. Use it at half strength.

With regard to the question of solubility of iodine in potassium iodide solution, there is no objection to adding a little more potassium iodide if the iodine is not readily enough soluble in the amount I gave. I make up my solution in the first place by only using a little water, and so the potassium iodide solution is at greater concentration. I then dilute.

Of course, if the bichromate-chloride bath is used, washing between bleaching and sulphuretting must take place and it must be thorough.

With regard to the question of blisters the iodine bleaching solution has nothing to do with them. Blisters are due to the fact that the emulsion when spread on paper has not "taken" it completely all over. You suggested to me, and you have very good means of forming a correct opinion, that the state of humidity of the paper was the determining factor as to whether the emulsion "took" or not. I cannot help thinking, however, that grease may have something to do with blistering. Grease is much more all pervading than many people think. We know from Lord Rayleigh that distilled water contains it, so much so that he could not accurately determine its surface tension. Any even very, very slight film of grease would prevent the emulsion "taking" the paper in the places where it was present.

Strongly alkaline solutions are at all events the chief blister producers, and on the grease hypothesis this can be easily accounted for. The alkaline solution, if strong enough, would dissolve the grease and leave the gelatine attached to nothing. Unless the manufacturers are absolutely certain as to what causes blisters I think they would do well to test this grease hypothesis. I may say that tap water is ordinarily much freer from grease than distilled water.

With regard to the iodine starch-cellulose compound this is completely decomposed, and all the iodine eliminated by sulphurous acid or sodium sulphite, and there is no evidence to show that its formation and subsequent decomposition tends to loosen the hold of the gelatine on the paper. Where blisters have occurred they have been the property of certain samples of paper (only one brand by the way), and have appeared whether iodine or any other bleaching agent was used.

With regard to Mr. Somerville's molecular strain theory I must say it seems to me to be rather a quaint one. In the first instance, we develop a print from an emulsion almost wholly of silver bromide. We now have a silver image which is quite different in structure from the original unexposed and undeveloped emulsion. It surely cannot matter whether we change it back to silver bromide (which is, by the way, completely different in molecular structure from the original emulsified silver bromide) or to silver iodide. In any case we must again alter its structure completely when we convert the haloid finally into the sulphide. Yours, etc.,

R. E. BLAKE SMITH.

A New and Very Fast Orthochromatic Plate: The "Rapid Isochrom."

IT has been our pleasant task during the last few days to make a careful and thorough test of the latest introduction of the Ilford Co.—the new "Rapid Isochrom" plate. Our experiments were conducted in the first place in the sensitometer in order that the nature and capabilities of the plate might be ascertained clearly and definitely. And these once learnt were supplemented by a series of camera trials to make sure that the readings of the sensitometer were borne out in actual practical work. The general results of our trials we are now able to put before our readers.

The plates are known as the "Ilford Rapid Isochrom," and in sensitiveness to the standard candle are approximately as fast as the Monarch plate of the same company In outdoor work generally they will be found to be of about half the speed of the Monarch, or as fast, if not actually faster than, any colour sensitive plate with which we are acquainted. In the present weather, as might be expected, the relative speeds of Monarch and Isochrom plates vary as the day wears on, until from three p.m. to sunset the Isochrom has the advantage. This, although a well-marked characteristic of orthochromatic plates in general, is noteworthy from the fact that the Monarch plate itself is distinctly sensitive to yellow and orange, although by no means so much so as the Isochrom.

It will be seen from this that in these plates we have a very fast orthochromatic emulsion, the actual speed of which will not be greatly over-estimated if put down at 200 Watkins, bearing in mind always that this is largely influenced by the light used for making the test. The other qualities of the new plate it shares with the "Monarch." It is extremely clean in working, whether used with a little bromide as the makers advise or without, shows no inclination whatever to frill, and gives with ease a negative soft, harmonious, and with a beautiful range of gradation. From a technical point of view we have never seen better negatives than were the result of some of our trials with the Isochrom.

For development we employed three different reagents—pyro-soda, as recommended by the company; rodinal or, to be strictly accurate, unal, one in thirty; and the kachin developer we have so often recommended in these columns, which we employ for most of our negative work. The Ilford Co. advise the use of a pyro-soda formula, which contains in each ounce of the liquid actually applied to the plate two grains of pyro, twenty-two grains each of sodium sulphite and sodium carbonate (crystals), and half a grain of potassium bromide. Each of these developers acted with perfect satisfaction, and gave results which we could hardly wish to surpass.

The "Rapid Isochrom" we might sum up by saying that it is an excellent highly sensitive orthochromatic plate, clean in working, not unduly slow in acquiring density nor too fast in that respect, and free from defects of all kinds both chemical and mechanical. It will most certainly add to the reputation of the company producing it.

"The time has come, the Walrus said, to talk of many things"

THE following query has reached me: "Dear Mr. Walrus,—Can you tell me why Mrs. Cadby says that a single daffodil is a jonquil? Also why the botanical specimen that Mrs. Cadby says is a teasel, M. Dubreuil says is a thistle?"

* * *

If the question had been put to me as to why I myself had described a daffodil as a jonquil, I should have replied with Dr. Johnson, "Ignorance, sir, sheer ignorance!" For I don't know a jonquil from a goosequil, or a gilliflower from a cauliflower. Indeed, it is only this that has preserved me from perpetrating photographs of flowers myself: I could never have titled them.

* * *

Why, though, should I be asked to explain Mrs. Cadby's statements? Suffice it to say that Mrs. Cadby once showed me clearly and unmistakably that she knows what she is talking about, for she wrote me a graceful appreciation of this page. Therefore, whatever Mrs. Cadby says is *right*. If she calls flowers jonquils they *are* jonquils, and the caitiff who dares deny it has got to reckon with me. At Mrs. Cadby's word a thistle shall be a teasel or a teasel a thistle, or either or neither shall be each or both. Hasn't the lady as good a right to name flowers as anyone else? This is final. "I am Sir Oracle, and when I ope my mouth let no dog bark!"

* * *

Lest, however, any readers should be in doubt on this important question of Free Trade or—I mean of daffodil or jonquil, I may remark in passing (I scorn to write *en passant*) that the jonquil belongs to the genus Narcissus (N. Jonquillæ) and is allied to the daffodil, of the order Amaryllideæ. In this class the root is a tunicated bulb, the leaves linear and slightly canaliculate, the flowers terminal with double corolla and six petaloid divisions, and enclosed before expansion in a membranous spatha.

* * *

These facts are so well known that it is astonishing how anybody can mix things up at all. Obviously, a daffodil is not a jonquil (unless Mrs. Cadby prefers that it shall be), but a jonquil is a narcissus, which is the same as a daffodil, with the exception of differences which are too apparent and familiar to need allusion.

* * *

The astounding advent of no less than two consecutive fine days has drawn my attention to the fact that at last we are safely delivered from the grisly grip of ghastly summer. For which relief much thanks. I feel, nevertheless, that I cannot let the radiant season go without raising my erstwhile tuneful, but now asthmatical, voice in its praise. So here goes:

I sing the summer wonderful,
So rainful, hailful, thunderful,
The sunless summer blunderful
Of one, dot, nine, nought, three.
For then the doughty camerist
Took forth his kit in blue-cold fist,
And found no subjects fit, I wist,
But slop and slime and slush.
He found no flowers blowing, sir,
But noticed it was snowing, sir,
And feared that he was growing, sir,
Web-footed like a duck,
Took doses paregorical,
Used language allegorical,
Read narratives historical
Of floods in days of yore;
And when November came at last,
And wintry June was really past,
He used one big D for the last,
Then chortled in his joy.

I respectfully suggest that the editor do order ten stereotypes of the above lines, as by all accounts they will be horribly appropriate annually for the next ten years. Moreover, I am of the opinion that they fill up the space admirably.

* * * *

[They fill the space certainly.—ED.]

* * *

Here is yet another illuminating contribution to the never-ending discussion as to whether photography is a science or an art. A speaker at the Bishop Auckland photographic exhibition said it was both.

* * *

He escaped.

* * *

But the next day uprose Dr. M'Cullagh (J.P. and art critic), who said it couldn't be both. "Science," said he, "was evolutionary, beginning in ignorance and going on to greater knowledge towards perfection. It was not so with art, which was the same yesterday, to-day, and to-morrow, and it was as good 2,000 years ago in Greece as it was to-day in London or Paris."

* * *

So the ungarbed cave-dweller of the Stone Age, who scratched on a mammoth's tusk with his wife's hat-pin the crude outline of a motor car may congratulate himself that his production was as much art as Mr. B. I. Gumm's Salon exhibits. Not to say more so. It further follows that photography, not being a science, is not evoluting towards perfection, but, being an art, is the same to-day, Christmas Day, and Ash Wednesday, as it was when Adam delved and Eve kodaked.

* * *

So far there are only three claimants amongst English photographers for the honourable distinction of having been absolutely the first to take the new Pope since his accession to the pontifical seat. So keen was the race to get there first that the photographers had no time for a few days' holiday in Saffron Hill, and therefore they arrived in Rome innocent of any knowledge of the Italian language.

* * *

"When they wanted the Pope to smile" (I quote the *Daily Mail*, so it's all right), "one of them made certain motions which resulted in the Pope smiling very nicely." Was it the smile that won't come off? And why couldn't they have taken the traditional monkey-on-a-stick? Surely the Pope would have laughed at that as much as at a British photographer dancing a wild can-can and playing imaginary castinets with his fingers. Or did he only flap his flippers over the camera and suggest the advisability of watching for the advent of the little dickybirds that would presently appear?

* * *

The firm should make capital out of this charming incident. How would this notice do for their showcase? "Our Continental operator is prepared in the case of pessimistic and melancholic clients to go through the same motions that made the Pope laugh. Fce, one guinea."

THE WALRUS.

SUBSCRIPTIONS.

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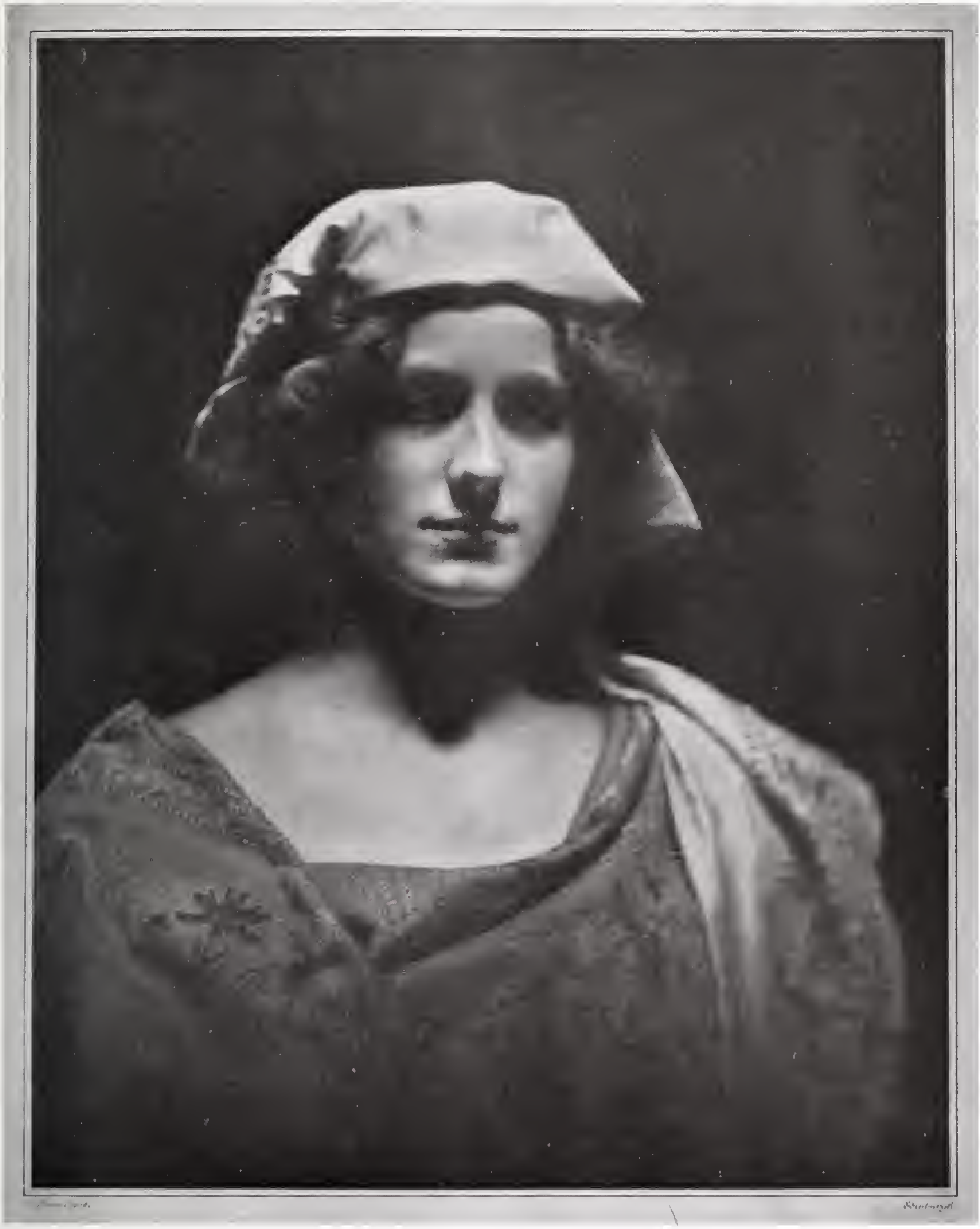


ZULEIKA.

BY W. CROOKE.

(*"Pictures from the Two Exhibitions," No. 19, see page 193.*)

NOTES IN AND ABOUT A DEVONSHIRE VILLAGE

BY SAMUEL FAIRCLOUGH

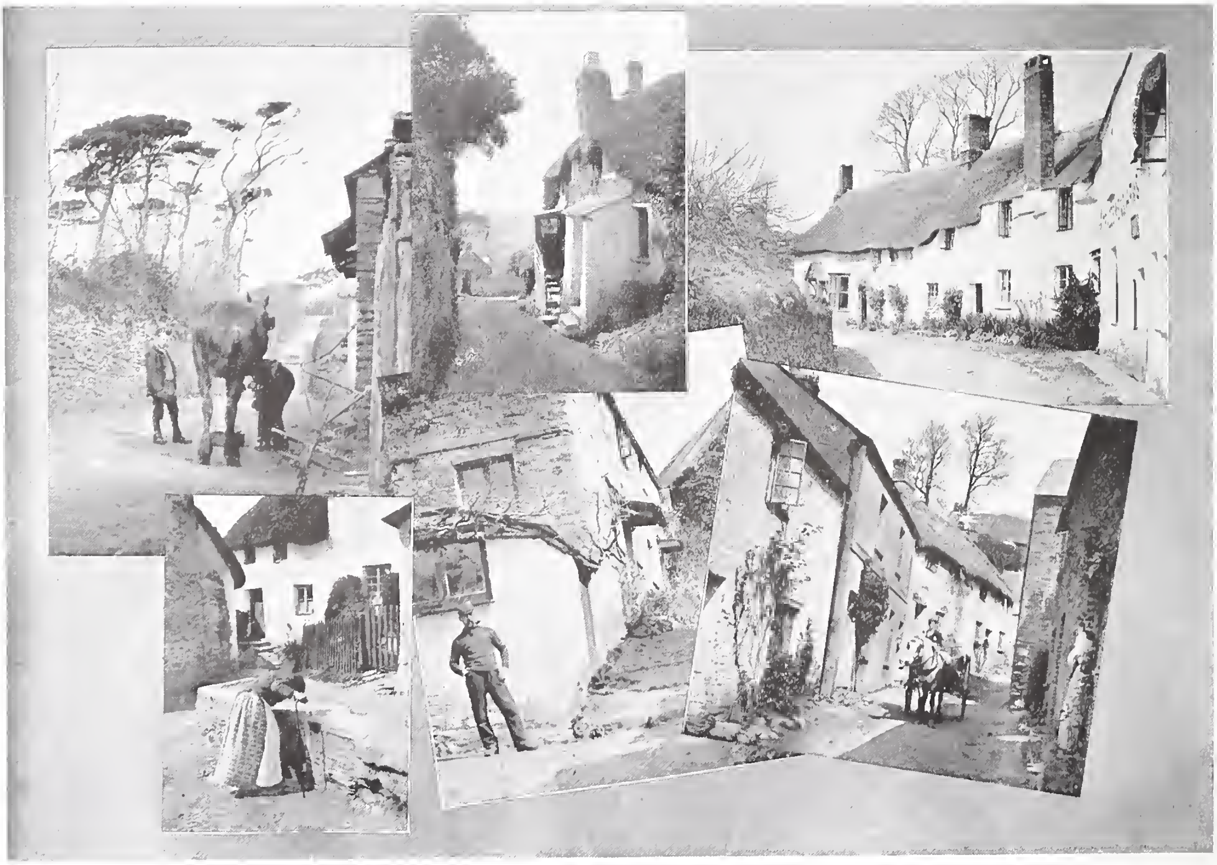
Special to "Photography"

AN invitation to spend a few days pike fishing beside a broad reed girt "Ley" in South Devonshire caused me to visit a part of England to which I had been until then a stranger. I blush to say it, but I had attained—well, enough years to know better—and yet until the summer of A.D. 1903 had never set foot in Devon. I was warned that the place was a fishers' resort pure and simple, and that I must expect to be able to do no photography there of any sort— so I took two cameras and a gross of plates. I always do when I get encouragement of that kind.

The exact village need not be specified. "There are several reasons why I should not marry you," said the young man. "What are they, I should like to know," replied his inamorata. "First," said he, "I cannot afford a wife." "Never mind the rest," was her interruption. There are several reasons why I should not tell you the name of the village I have photographed. The first is, that it does not exist. At least, I have seen and worked in several, and my photographs, gathered from amongst them, may be taken as recording a typical rather than an actual one.

It is near enough to the sea for many of its inhabitants to derive a scanty living from its waters; it is in pasture country for the supplies of cream to be inexhaustible; it is arable enough to be studded around with deep red fields that are an unending delight to the eye.

As we wander up and down its narrow steep little



streets we catch glimpses through the open doors of the cottages of the very cleanest and neatest interiors At night, when the red curtains are drawn so that the narrow streets might almost be taken for an unlimited darkroom, from out of some of these same cottages come the strains of an asthmatical harmonium or refractory concertina. Set in the midst is an ancient and ivy-covered church, surrounded by stone certificates of the long lived character of its inhabitants.

The custom of whitewashing the outside of the cottages is one that serves to give the village a particularly cleanly appearance, although it may be thought by some that the custom is carried too far when I say that at times the creeper or an adjacent bush seems to be whitewashed as conscientiously as the house itself. In front of many of the cottages are to be seen fuchsia trees that in summer time are borne down by their profusion of graceful flowers.

To wander round the village in the early morning I found was usually the best time, and failing that, the late afternoon. When the sun was directly overhead, the shadows were less in extent, and less helpful to the photographer, and the general appearance was too harsh.

The water supply was represented by an ever running stream brought down in a pipe to the centre of the village, and thence the very young and very old bore water in buckets to their houses. The forge was one of the few landmarks, and I had spent several days in my village before I discovered that two very quiet neat looking houses represented its only supply of alcoholic refreshment. Sign they had none, except the small unobtrusive inscription over the doorway to comply with Government requirements.

One of the most picturesque of the dwellings, and certainly the cleanest and neatest cottage I have ever been in, was owned by the oldest of the fishermen—a fine looking old man with the Scriptural but appropriate name of Eli. Flowers clustered round the door, and whether in bright midday sunshine, when Eli was away at work, or at night with the "Grandfather" ticking in the corner and the cricket chirping on the hearth, alike it was delightful to the eye and a thing in which his comfortable housewife could well take pride.

As a village where there is "positively no photography to be done," the typical Devonshire village takes a great deal of beating. It may not have any of the wide stretching views which are the delight of some; it is certainly free from the odours which invariably accompany the picturesque in Italy, Austria, or Spain; it is very sadly deficient in marsh and mud, and is many miles from any saltings; but it is, nevertheless, profuse in what it offers to the enthusiastic camera worker. Let him take advantage of his opportunities, then, and make hay while the sun shines.

Notes on Unal as a Developer for Bromide Paper.

By C. Winthrope Somerville. Special to "Photography."

In the notes which we print below, Mr. Somverville describes his experiences with Unal. We have ourselves used this new form of our old friend Rodinal very considerably lately and with most excellent results. The merits of Rodinal as a developer both for plates and bromide paper are well known. Unal has them all, and in addition possesses the convenience and portability which are only to be met with in developers which are kept in the dry state. It is an ideal developer both for those whose work is intermittent and for those on tour.—Ed.

THIS, the latest addition to the ever-increasing series of non-staining developers, provides us with a developer in solid form, which, on being dissolved in water, gives a one-solution developer, requiring only greater dilution or the addition of potassium bromide for any necessary modification.

The manufacturers describe it as rodinal in solid form, but I do not think that this should be taken as an indication that its qualities are precisely the same, since over and above the general properties of rodinal it possesses some distinct features of its own. Density is attained with unal more rapidly, while the appearance of the half-tones and shadows during development is more perceptible and regular.

Upon dissolving the salt in water the solution assumes a yellow colour, which tends to safety in developing, but the film is not stained. The strength of the normal solution is three hundred grains of unal to three and a half ounces of water; but for bromide paper the normal solution is rather too energetic. It should be diluted to twice its bulk.

For controlled development with a weak solution it is not necessary to dilute to such an extent as with other developers, and the influence of bromide is very similar to that which it exercises over rodinal. With under-exposure the shadows flash up fairly rapidly, and appear to remain stationary for some time, while the half-tones and high lights seem to drag themselves out slowly, but there is little or no clogging of the shadows, so that a stronger solution may be used than would otherwise be the case. With correct exposure the image appears very uniformly, and has a pure grey colour, the intensity of the shadows accumulating slowly and regularly, the whole of the print having a clearness approaching that produced after fixing.

The slowness in attaining the full intensity must not be taken as a sign of under-exposure, and development may with safety be continued for some time after it appears to be complete. Over-exposure is at once seen by the more rapid appearance of the half-tones and high lights and by the absence of any accumulation of density in the shadows. The deposit on a correctly-exposed print is from a very pure platinotype black in the shadows to a dove grey in the higher half-tones, the scale of gradation reproducing in reverse that of the negative very faithfully.

The influence of temperature on unal is very similar to that on other developers, development being most advantageously carried out at 65° F.

The following I have found to be a convenient table. It gives the number of grains of unal per ounce of water, which I find best for varying exposures on bromide paper, and is based on a solution of the normal strength of nine grains to the ounce:

EXPOSURE.	GRAINS OF UNAL.	WATER.	MINIMS OF A 10 % SOLUTION OF POTASSIUM BROMIDE.
Correct	3½ to 5½	1 ounce.	Nil to 4
Under (slight)	2 to 3	1 ounce.	Nil.
Under (excessive)	1 to 2	1 ounce.	Nil.
Over (slight)	4 to 5	1 ounce.	6 to 8.
Over (excessive) ...	5 to 8	1 ounce.	8 to 12.

The developer works so cleanly that the presence of bromide is rarely necessary.

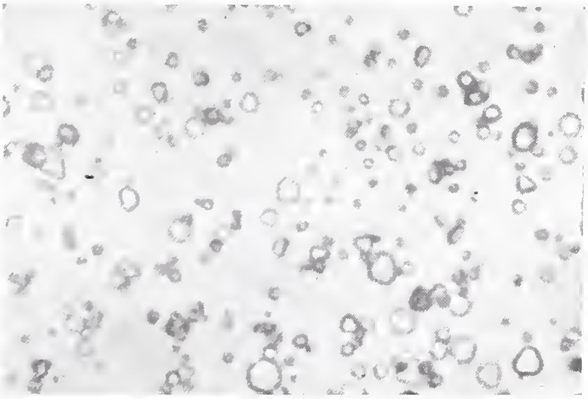
German Photographic Material.

THE Chamber of Commerce of Prussian Oberlausitz, near Gorlitz, reports that the sale of photographic objectives in 1902 has been about ten per cent. more than last year's, but the profits have been about the same, and it is expected, in view of the prospects of the export trade, that the year now current will not be behind it. Prices are somewhat lower, and the financial situation is about stationary.

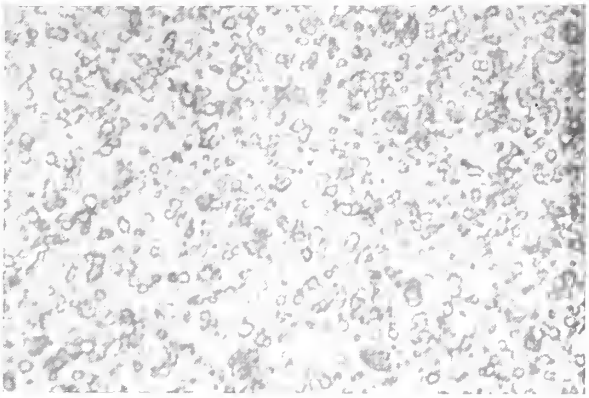
Competition in good makes has been keener. As Germany is taking the first place in photographic optics, there is little competition from the outside. Cheap objectives in cheap cameras are coming in from North America in large quantities, and the Kodak Company is therefore pressing hard on German trade. On the other hand, the forty-five per cent. duty *ad valorem* has made it impossible for Germany to invade the United States. Cost of production has remained about the same, and labour has been plentiful. In photographic apparatus and accessories the makers have had cause to complain of conditions. The sale has been restricted. The future depends on the commercial treaties, as two-thirds of the production go abroad. Here also the United States presses hard on Germany's heels. *(Money Market Review.)*

The Grain in Plates. By C. S. Dyer.

RECENTLY published photomicrographs have shown the grain in photographic negatives after development. In the developing process, however, they lose their character usually, and become amorphous, so that it may be of interest to show their appearance before they form the image.



An undeveloped Rapid plate X *1,000*



An undeveloped Slow plate X *1,000.*

The two photographs reproduced herewith show the grain of an ordinary and of a fast plate respectively, magnified 1,000 diameters. The larger grains are thin and flat, and hexagonal and triangular forms are evident. All the grains are transparent. The fast plate shown is by no means exceptionally coarse, plates with a much coarser grain being in commercial use.

The photographs were taken with a usual ⅙ objective, using yellow light and isochromatic plates, and were then enlarged four times. A thin part of the plate was selected, so as to get a flat field, and so that the grains might be scattered enough to be distinct.

The "Wiener Freie Photographen Zeitung" on the same subject.

WE know that the size of the grains of a dry plate film depend on the duration of ripening of the emulsion and the chemical treatment of it. The thickness of the film and time of development are also governing factors. According to the experiments of Schaum and Bellach, the average thickness of film of an undeveloped plate is 24-1,000 mm., or forty-two films go to a millimetre. In a square millimetre of a Schleussner film 270,000 silver bromide grains were found in the surface layer. Their size differed. The original size alters again during exposure and development, and, as already stated, it is further influenced by the time of the other manipulations. In some films examined the grains were nine millionths of a square millimetre in size, this being the average size of larger grains due to ripening of the emulsion.

The Anipart Postcard Printing Frame.

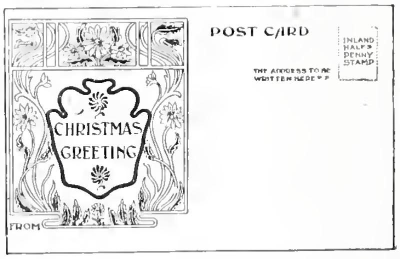
IN printing from quarter-plate negatives upon postcards it is desirable to have the power of making such adjustments that the image may be brought over any part of the card. The Anipart printing frame fulfils the condition absolutely so far as a quarter-plate negative is concerned, and is capable also of taking a half-plate—a provision that we do not remember to have seen in any other postcard printing frame.

The size of the frame (10in. by 7in.) is very small, taking into consideration its adaptability. To give some idea of its construction, it is first a printing frame with a hinged back 10in. long, and wide enough to carry a postcard. The front of it is cut away to permit a square frame which holds a quarter-plate negative to slide across. As this frame is reversible, the negative may be turned round either way. Between the sliding frame and the printing frame proper there are slots 4¾in. wide through which a half-plate negative may be slid, and the frame is so long that the postcard may be placed in any position relative to the negative.

In its general adaptability and the ease and certainty with which the changes can be made it beats anything we have previously seen. When we add that made in teak its price is 1s. 6d., or made in pine 1s., post free threepence extra, our readers will agree with us that Mr. W. Tylar, of 41, High Street, Aston, Birmingham, has brought out one more novelty as moderate in price as it is useful.

Sensitised Christmas Postcards.

SENSITISED postcards upon which the photographer may print from his own negatives have achieved a popularity unprecedented probably since the days of the C.D.V. craze. All and sundry are using them, and the approaching holiday season, when cards of greeting are so universally despatched, are likely to add to the demand. To add still further to the usefulness of these cards, Messrs. G. Houghton and Sons, of 88-89, High Holborn, are now issuing them sensitised for gaslight printing, and bearing an inscription on the reverse side. Printing from an average negative six inches from a fishtail burner, an exposure of from two to three minutes will be sufficient, and the cards may be safely developed by the same light if the flame is turned down halfway. Metol and hydrokinone or amidol may be used, but it should be noted that, unlike bromide paper, these gaslight cards, like the papers of the same name, work best in strong solutions, and it is necessary to use a little potassium bromide. For best results the negatives should not be too strong in contrast. With one that will give a somewhat soft image on P.O.P. very fine results may be obtained. The cards are sold in packets of twelve and with two masks at one shilling.



LANTERN SLIDE MAKING

BY G. T. HARRIS.

CHAPTER V.

Clouds in Lantern Slides—Negatives with Clouds already existing in them—Clouds by the "Cover-glass" Method—By Vignetting in the Camera.

LANTERN slides without clouds, where such are necessary, are now as rarely seen as are prints without them. At the present time the percentage of landscape negatives that do not show clouds in them is small indeed compared with what it was fifteen years ago. The orthochromatic plate, coupled with the use of a light filter, makes the retention of clouds in landscape negatives an easy matter; and when even these are not used, the fact that nine-tenths of the exposures made are shutter exposures accounts for the greater prevalence of clouds in the negatives of to-day.

The lantern-slide worker, more than any other, should make a special effort to obtain his negatives with clouds in them, for by so doing he will obviate a large amount of subsequent work. Perhaps in his landscape negatives clouds already exist, but owing to their greater opacity they do not show well defined in the print; in such a case the sky portion should be carefully reduced with ferricyanide or persulphate until the clouds assume an opacity of equal printing value with the landscape portion. In some cases the sky portion of the negative exceeds in density the landscape portion by only a small amount, and it is not desirable to interfere with the opacity. Where this is the case the landscape portion should be screened during exposure, when making the slide, so that the denser sky may have a few seconds' additional exposure.

There will, however, always be a certain proportion of slides which necessitate the introduction of clouds from other negatives, so that it is essential for the slide maker to be proficient in the methods whereby clouds are introduced into slides that show no trace of them.

Two methods are generally available: the clouds may be printed on a separate lantern plate from a specially made cloud negative, and this cloud slide used as a cover glass; or they may be printed on the same plate as the landscape portion in the camera by double printing. These two methods will now be described in detail, preference being given to the first, or "cover-glass method."

It is essential that the slide maker, who has the prospect of much landscape work before him, should be well stocked with cloud negatives of every description, specially taken and developed, so that he can at any time select a suitable cloud effect for any particular landscape. I recommend that prints from these cloud negatives be mounted in a rough album, and the time of day when the negative was taken, with the compass direction of lighting, be written underneath. There will then be no danger of *bizarre* and contradictory cloud effects being shown on the screen. In these cloud negatives no portion of the landscape should show; if it is impossible to avoid obtaining some portion when taking the negatives the landscape should be blocked out by gumming some non-actinic paper upon the reverse side of the negative.

Having obtained a lantern slide of the landscape portion (fig. 1), see that the sky part of the slide is represented by absolutely bare glass. If the negative has its sky portion blocked out this will secure perfectly clear glass in the lantern slide, but should any deposit be apparent in the slide it must be cleared away by the application of the ferricyanide reducer, applied with a small tuft of cotton wool. The slide is washed and dried in the usual manner.

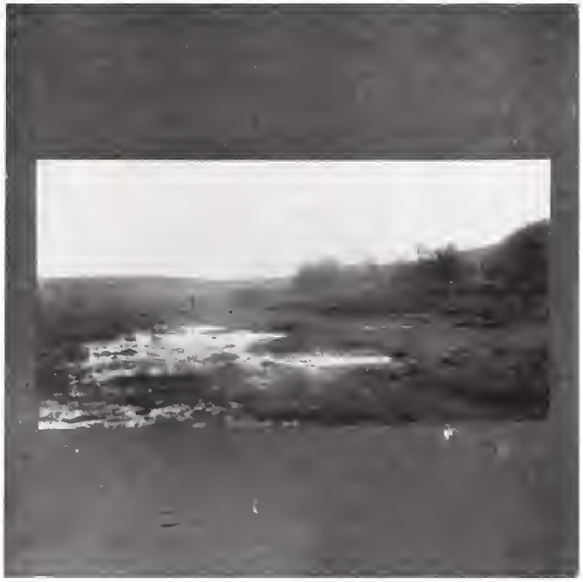


Fig. 1.

To make the cloud portion, take another lantern plate, and, having selected a suitable cloud negative make a lantern slide of this (fig. 2). The cloud negative must be adjusted in the camera so as to occupy the position on the plate that will enable it to fit in the clear portion of the landscape slide when the two are bound together. To make this adjustment all that is necessary is to hold the landscape slide over the image of the cloud negative shown on the focussing screen, when it will be seen at once if the two correspond. Expose and develop, taking care to work under the same conditions as when making the landscape so that the colours of both may be the same.

Fig. 2.

On removing the plate from the fixing bath and comparing it with the landscape portion it will at once be seen how nearly they correspond with each other.

Here, now, is seen the value of reduction and intensification in slide work. Perhaps the sky slide requires a slight intensification to bring it up to the landscape portion, or it may be denser and require a brief application of the ferricyanide reducer. Having made the two slides of equal opacity, place them back to back, with the edges of the slides even. It will at once be apparent whether the two dovetail into each other, or whether the sky slide overlaps the landscape slide and gives a bad effect. Should the sky slide encroach on the landscape anywhere, take a tuft of cotton wool, dip it in the ferricyanide reducer, and, still holding the slides back to back, carefully remove the portion of the sky slide that overlaps the landscape. Do not use the reducer too strong, and see that none of the reducer reaches the landscape slide by capillary attraction.

When the slides are dry and bound film to film the sky and landscape portions should fit and form a perfect slide as fig. 3.

This is the best method of obtaining clouds in lantern slides; but it has one drawback, when developing for warm colours it is not always easy closely to match the two slides. For this reason it is best, whenever possible, to expose the sky and landscape plates one after the other and develop them together. Another means of ameliorating the difficulty is to prepare a stock of sky slides during leisure moments, so that some variety may enable the slide maker to effect a match.

The second method, that of printing the clouds on the same plate as the landscape, is not quite so certain as the method just described. Having selected the cloud negative it is desired to incorporate with the landscape, a mask has to be prepared with which to screen the landscape portion during the exposure of the cloud negative. To prepare this mask take a piece of non-actinic paper, lay it over the landscape negative, and, holding the negative up to a strong light, roughly trace with a pencil on the paper the outline of the landscape where it comes against the sky. Cut out the landscape portion along this line so that two masks result, one for the sky and the other for the landscape. For convenience, the landscape mask may be gummed on a piece of cardboard, leaving the outline of the landscape projecting beyond the stiff edge of the cardboard. The stiffening is an advantage, as it enables the mask to be held more securely by the hand during exposure.

Place the landscape negative in the camera and expose on the lantern plate in the usual manner. Then remove the landscape negative and insert the cloud negative, taking care that it is placed in the same relative position that the landscape negative occupied. Now hold the cardboard mask in front of the cloud negative so that it covers that portion of the negative corresponding to the landscape negative. The mask requires holding about an inch away from the negative, and should be kept moving slightly above and below what would be considered to be the line of junction of the landscape and sky portions. It will thus be seen that the sky negative is vignetted into the landscape portion in the camera, so that both are obtained upon the one lantern plate. A little practice enables this to be done in a very neat manner, but this method is probably not so easy for the beginner as the one previously described.

It should be borne in mind that the same necessity exists in this second method for obtaining the landscape portion with the sky showing as clear glass, otherwise on removing the landscape negative and inserting the cloud negative a brilliant result will not be obtainable. If the sky portion of the landscape negative is not sufficiently dense to give freedom from deposit in the slide, that portion of the paper mask covering the sky should be roughly placed in position during the exposure of the landscape negative to ensure this end.

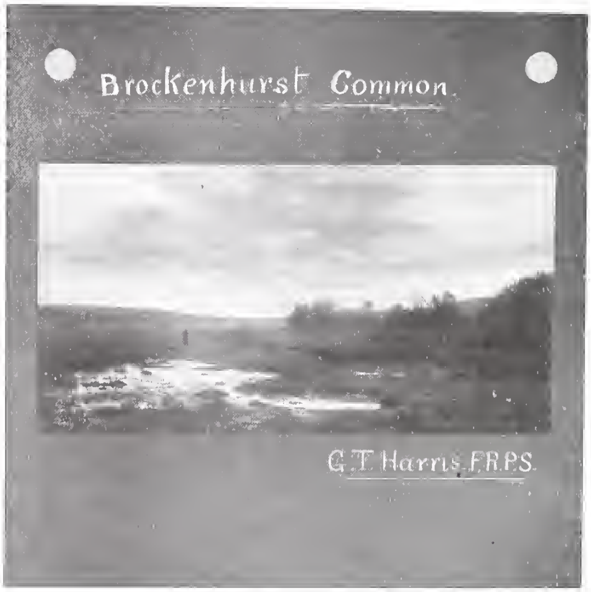


Fig. 3

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NOTICE TO CORRESPONDENTS.

All letters, advertisements, etc., must reach the office on Friday morning to ensure being dealt with in the issue for the next week. In cases of great urgency, letters delivered up to the first post on Tuesday morning may be in time to receive attention, but this cannot be guaranteed.

LEADER

Modern Cameras for Modern Work.

In a number of architectural photographs by a well-known firm, which came before our notice the other day, we were surprised to find that an appreciable proportion suffered from that form of distortion which is brought about by the back of the camera not being strictly vertical, and on enquiring the cause we found it to lie in the fact that the cameras used did not allow of sufficient swing to correct the tipping, which in many cases was said to be necessary

We were curious enough, however, to enquire further, and learnt, as indeed we had suspected, that not only was the maximum degree of swing a very small one, but that the rise of the front was similarly restricted. The cameras, in fact, were of that "good old" type, "built"—as their construction was correctly termed—to work with the rectilinears and symmetricals of fifteen years ago. There was some excuse for admiring them, for they were beautifully made, although somewhat cumbrous and heavy, the brasswork was elaborately finished, and the whole outfit the kind of thing in which the conscientious cabinet maker might take a just pride. Within the limits which optics imposed at the time that they were designed, they were everything that could be desired, yet, from a modern point of view, they were inefficient.

The lesson which was to be learnt from them was that modern lenses could do much that the older types would not, and while the old-fashioned cameras, with many merits of their own, were useful enough as long as the conditions were not severe, as soon as the photographer wanted to take full advantage of the capabilities of his high-class lens the camera showed its limitations.

The small extent of swing to the back was not so very serious a matter, and, to tell the truth, was not a common defect in the older instruments, when f/64 was a stop often used, and a back could be swung through an enormous angle, and still all the picture would be sharp. But the limited rise was a very great objection to the design, since with some of the best of modern lenses the field embraces so wide an angle that a swing back, except in telephoto work, is hardly wanted at all.

What is wanted for the architectural worker, and wanted badly, is as great a rise of the front as possible. For work of this character the maximum degree of rise of the front should be sufficient at least to bring the top of the lens level with the top of the plate, and more than this is often very convenient. The flat field of the lens and its wide angle will then be sufficient in a majority of cases to do all that the older lenses with a tilted camera and a small stop could accomplish, and do it with a much larger aperture.

Of course, in getting this extended rise it is at the same time essential that the bellows should not cut off any part of the picture, and this means that not only must they rise with the front, but they must also not be too taper. In cameras of the type in which the bellows are fixed and the front alone rises it is not possible to bring the axis of the lens as high as the top of the plate when this latter is used vertically without cutting off, and in many of them a far less degree is impossible without alteration.

With most of the modern types, however, it is possible, and much as we may admire the cabinet-making triumphs of the "seventies" and "eighties," there can be no doubt that for work under modern conditions a modern camera is most suitable.

Spirit of the Times

EXHIBITION WORK. The current season shows no falling off in the number of photographic exhibitions, but, judging by the lists we publish week by week, rather an increase over those held in previous years. As our list chronicles only the exhibitions in which there are open classes, and does not mention the large number of others restricted to members of the societies organising them, and as from the accounts we receive all are well supported, it is evident that a fair proportion of photographers submit their work to the fiat of the judges. This is as it should be, or rather it is an approach to what we should like to see, and that is that every worker should have in his mind the hope of an exhibition picture when he makes an exposure. The possibility of winning an award is quite a minor matter, and success should not unduly elate, nor failure depress, the exhibitor. The prime matter is the healthy spirit of progress engendered by such competition. One of the most useful features of society membership is the opportunity afforded for frequent comparison of results, and the annual exhibition is an opportunity of the same kind, but under such conditions that everyone is showing his best work, with all the advantages of mounting and framing. The photographer who from living in some outlying district or from other reasons is unattached to a society must either exhibit or lose the educational advantages of comparing his work with that of others. These advantages can scarcely be over-rated, for the tendency with those working alone is to degenerate into tricks and mannerisms. The endeavour to impart something of individuality into the treatment has to be carefully watched lest it leads to over-done dramatic effect, and the faults in one's own work are brought home with telling strength when they are noted in the work of others.

* * *

LAUDATOR TEMPORIS ACTI. It is a fact for which it is very easy to account that, in most of the published advice on photographic matters which is to be found in the technical press, the course recommended lags some years behind the actual practice of the day. Thus, we find our authorities advocating slow plates instead of fast ones, stand cameras instead of hand cameras, pyro-ammonia instead of the newer developers, and collodio-bromide instead of the modern lantern plate. Here and there may linger a survival of a photo-palæozoic age, one who makes his own plates, or uses home sensitised albumenised paper. All this is very natural. Our leaders in photographic matters, as a rule, are men who have gained their position slowly and by degrees, extending over so long a period that their most energetic photographic efforts were put forth at a time when photographic practice was very different from what it is at the present day. They have a very natural tendency, therefore, to praise the procedure and methods with which their own position was gained, and to look somewhat deprecatingly upon methods that have been introduced in more recent times. The objections to such modern introductions as time development and roll films, to name only two of the particular bugbears of the photographer of "the eighties," are attributable almost entirely to this very natural feeling. We must be very careful how much weight we attach to the advice of veterans upon subjects of a more recent date than their own exploits. We should be the last to underestimate the value of their experience in the matters with which it has been gained, but with more modern procedure it is, as a rule, advisable to take the experience of more modern men.

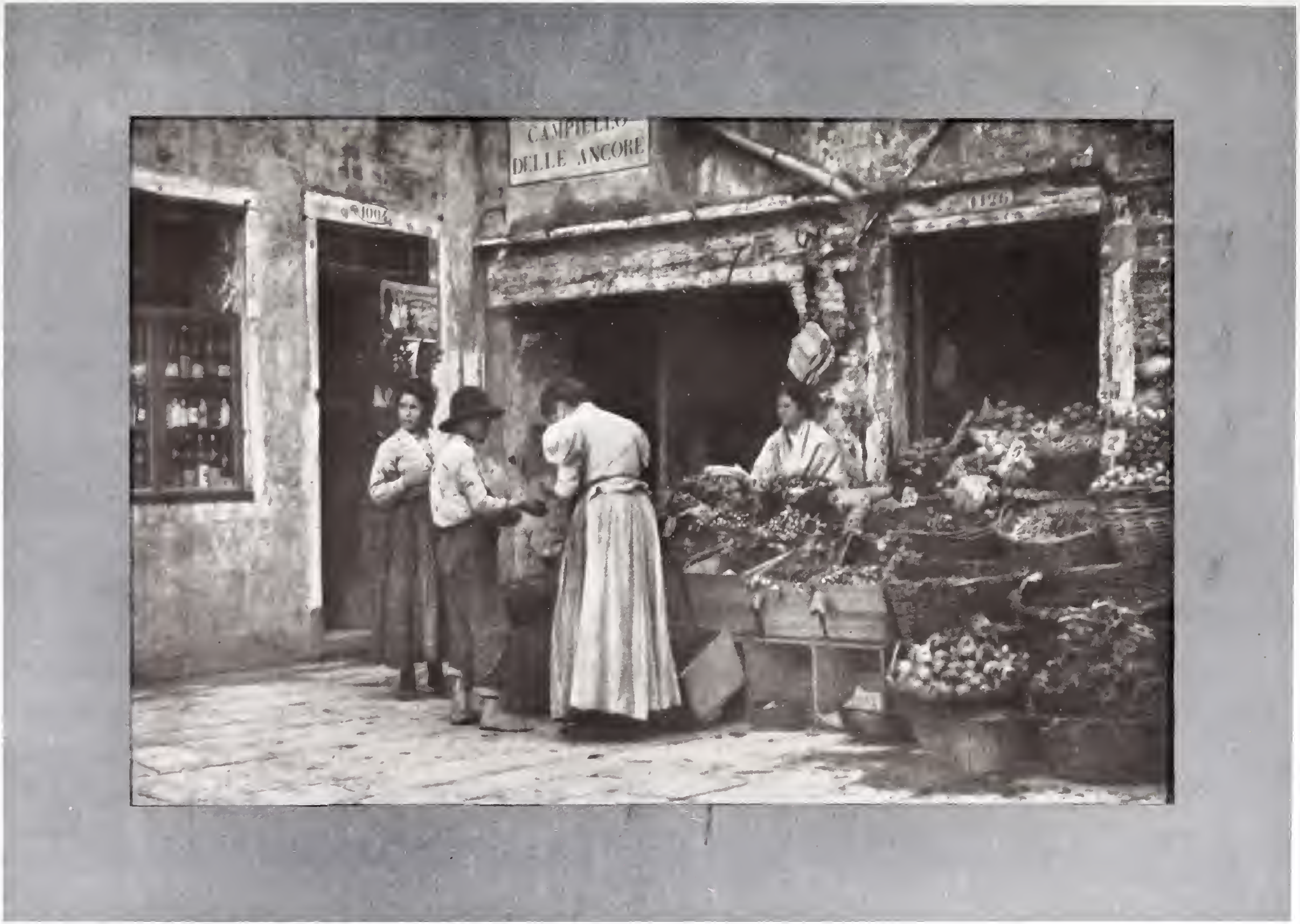
* * *

PHOTOGRAPHIC COPYRIGHT A case of very considerable interest to photographers is that of Davis *v.* Baird, in the Chancery Division of the Irish Courts, in which the Master of the Rolls gave judgment on the 1st inst. The facts of the case need not be gone into in detail; it may suffice to observe that his Lordship found that *Ireland's Saturday Night* and the *Belfast Weekly Telegraph* had committed an infringement. On the question of damages, he did not award a farthing a copy as a minimum, but preferred to assess them in a lump sum of five pounds. It is questionable whether this lumping of damages is not a great hardship to the injured party. A photographer whose work is taken and used by a big newspaper is hardly likely to take legal steps to protect himself, if he knows that it is to be assumed that five pounds represents the maximum damages he can get—a sum which will probably be less than ten per cent. of the solicitor and client costs, which he himself will have to pay in any event. But the case is only one more example of the powerlessness of British law as a protection from civil injury, and one more testimony to the broad distinction between law and justice.

THE CATALOGUE of Fine Chemicals for the Materia Medica and the Arts issued by E. Merks, of 16, Jewry Street, E.C., has been brought up to date. The goods are quoted in both imperial and metric weights. A well selected stock is kept in hand, and experimental workers should note that chemicals not listed will be obtained to order, and that chemicals which are not commercial articles and new preparations will be made to order on reasonable terms.

FORTHCOMING EXHIBITIONS

SOCIETY.	OPENS.	ENTRIES CLOSE.	SECRETARY.
Dalziel Bazaar	December 10	November 28	James Dunlop, Myrtle Bank, Motherwell, N.B.
Ilford Church Bazaar	December 10	November 30	J. O. Watson, 164, Wellesley Road, Ilford.
Southampton P.S.	December 11	December 2	S. G. Kimber, Oakdene, Highfields, Southampton.
Chicago S A P.	December 29	December 15	Society of Amateur Photographers, The Art Institute, Chicago.
Wishaw and District	December 30	December 14	T. Peat, 75, Hill Street, Wishaw.
Liverpool A.P.S. Slides	—	January 30	E. Simnett, Percy Buildings, Eberle Street, Liverpool.
Sefton Park P.S.	January 5	—	H. E. Cubley, 3, Langdale Road, Liverpool.
Corn Exchange A.P.S.	January 13	December 31	J. H. Mitchener, 1, Seething Lane, E.C.
Burnley C.C.	January 21	—	B Slater, Wood Nook, Burnley.
Affiliation Prints	—	January 23	The Secretary of each Affiliated Society.
North West London P.S.	February 11	January 28	J. S. Fairfoull, 13, Addison Road, Walthamstow.
Scottish National	February 13	—	John B. Maclachlan, *Dundee Courier*, Blairgowrie.
Affiliation Lantern Slides	—	February 13	The Secretary of each Affiliated Society.
Birmingham P.S.	February 27	February 22	L. Lloyd, Hollies, Church Road, Moseley, Birmingham.
Cripplegate P.S.	February 29	—	G. H. Depledge, 17, Hazeldene Road, Goodmayes, Chadwell, Essex.
South London P.S.	March 5	February 20	W. C. Marshall, 41, Glendon Road, Lee, S.E.
Brechin P.A.	March 5	February 13	J. Kirk, 1, Infirmary Street, Brechin.
Nottingham C.C.	March 9	—	Arthur Black, 9, Bowers Avenue, Nottingham.
Brentford P.S.	March 15	March 3	F. H. Read, Clifden Road, Brentford.
Northern	March 25	March 11	C. F. Inston, 25, South John Street, Liverpool.
Cape Town P.S.	April 4	March 13	A. J. Fuller, P.O Box 750, Cape Town.
Croydon C.C.	April 6	—	H. M. Bennett, Alipore Duppas Hill, Croydon.



AN ITALIAN FRUIT STALL. *"Pictures from the Two Exhibitions," No. 50 see page 493.)* BY PERCY LEWIS.

QUESTIONS AND REPLIES

Readers wishing for information upon any specific point in connection with photographic theory or practice are invited to make use of the "query form," which will be found amongst the advertisements. All enquiries must comply with the conditions stated upon the query form; those which do not do so are neither acknowledged nor answered. All enquiries are answered by post. We cannot undertake to make replies in the paper. We print below from time to time a selection from the queries we receive, and our replies.

REMOVING SILVER STAINS.

I shall be much obliged if you can tell me how to remove from a negative stains caused by using damp P.O.P.

There is no certain cure for silver stains. The best method we know is to soak the negative in a combined toning and fixing bath till the stains are gone. A formula for the bath is hypo two ounces, ammonium sulphocyanide one hundred and twenty grains, lead nitrate forty-four grains, and water ten ounces. The bath should be ripened by the aid of heat and then filtered, after which two grains of gold chloride are added. If the negative had been coated with celluloid varnish before it was printed from, they could have been removed, unless they were very bad indeed, with a wet rag.

PHOTOGRAPHING BY ELECTRIC LIGHT.

Is it possible to take a photograph in an ordinary room lighted by three 16 c.p. electric light lamps suspended in the centre? If so, would an isochromatic plate be most suitable? Would a yellow screen be necessary? About what exposure would be required?

It is quite possible to photograph the room, but it would not be practical to take a portrait in it. An isochromatic plate would give better results than would an ordinary plate, and though a yellow screen is not absolutely necessary, better results would be obtained by its use when the objects in the room are varied in colour. The exposure depends so much upon conditions that are variable, that it is not possible to give anything like a definite idea of what it should be. The light given by the lamps may vary very much; plates are of different speeds; the size of the room, the colour of the walls and of the other objects, greatly affect the exposure. Using an orthochromatic plate of moderate speed and a lens working at f/16, we should try an exposure of two hours, or we should give twice that if a light yellow screen were used, and judge by the results.

GOLD AND PLATINUM TONING BATHS.

Will you please give me formulæ for gold and platinum toning baths?

A gold toning bath that gives good results with all papers we have tested is that suggested by Mr. G. T. Harris in *Photography;* a solution of sodium bicarbonate, 20 grains; formaline (forty per cent.), 40 minims; water to make 20 ounces. This may be kept as a stock solution, and immediately before use gold chloride in the proportion of one grain to each ten ounces is to be added. After the addition of the gold, the bath will deteriorate in about an hour.

The following is one of the best sulphocyanide gold toning baths, but sulphocyanide is always treacherous. Ammonium sulphocyanide, 30 grains; water, 16 ounces; gold chloride, 2 grains. The best way of using this bath is to make up the sulphocyanide solution for stock and to add the gold about a quarter of an hour before use. It may also be kept combined as a stock solution, but the portion which has once been used should never be returned to the stock bottle. It is desirable to take only as much as is wanted for the batch of prints in hand and to throw it away when done with.

For platinum toning we have found the following satisfactory with most brands of paper: Water, 8 ounces; citric acid, 60 grains; potassium chloroplatinite, 2 grains. After the prints have received the preliminary washing to remove the free silver, it is well to let them lie for a minute or two in a five per cent. citric acid solution before toning. As each print is toned, it is to be immersed in a five per cent. bath of sodium carbonate. This checks further toning action, and neutralises the acid, which would otherwise decompose the hypo in the fixing bath and lead to yellow stains.

NEGATIVES FOR THE CARBON PROCESS.

In the article by Mr. Bennett on home sensitised carbon tissue, the following sentence occurs: "A negative suitable for carbon printing." Can you tell me what the qualifications of such a negative should be?

A negative suitable for carbon printing has a distinctly longer range of gradation than one suitable for most printing processes now in vogue. A negative that would yield the best print on P.O.P. would give a flat image on carbon tissue. In the absence of definite standards we can only suggest that if a negative suitable for P.O.P. took five minutes to develop, seven minutes would be required under precisely the same conditions to give the density best suitable for carbon. It would be well, however, to note "Professional's" opinion, given on p. 477 last week.

FINE FOCUSSING SCREEN.

I should be much obliged if you could tell me the best way to make a very fine focussing screen. The ordinary ground-glass sold for the purpose is not fine enough for what I require.

Grind a sheet of glass with the finest emery and water, using a slab of thicker glass with which to do the grinding. If there is any difficulty in getting the emery used by opticians, it may be made by levigating ordinary flour emery. An ounce or two of the powder is stirred into a jar of water. In a little while the heavier particles sink to the bottom and the water is decanted into another jar, when a precipitate of finer particles falls down. After a while the water may be decanted once more and allowed to settle, when a small quantity of almost impalpable dust may be collected. This will give a very finely ground surface to the glass.

Another method is to dissolve half an ounce of sodium fluoride in five ounces of water. This is placed in a vulcanite or leaden dish as large as the sheet of glass to be operated upon. Half an ounce of sulphuric acid is added to the solution; the glass has the reverse side protected by a coating of wax, and it is suspended over the dish. On applying gentle heat to the bottom of the dish, fumes of hydrofluoric acid will rise and etch the glass. Whichever method is adopted the glass should only just have the polish destroyed.

PHOTOGRAPHING INTERIORS.

I shall be pleased if you can tell me the best way to take interiors; whether to use a small stop and give long exposures, or to use a large stop and give short exposures. I have tried the former with backed plates, but have not had satisfactory results through halation.

The plates must be properly backed. Caramel, which can be bought at any of the dealers, is best for the purpose. To get everything in good definition the lens should be focussed at a large aperture upon a point about one-third of the way between the nearest and the most distant object that is to appear in the photograph, and then smaller stops are inserted till both the near and distant objects are sharp. A smaller stop than is needed to do this will prolong the exposure without attaining any good end. The exposure must be long enough to do justice to the shadows; the lights may be allowed to take care of themselves.

The developer ordinarily employed should be used; any attempt to compensate for faulty exposure is almost certain to lead to aggravated halation. As soon as the contrast in the negative is as strong as the printing process will do justice to, development should be stopped. If the shadows are then too thin, it is a sign of under-exposure, and the best thing to do is to make another negative with a longer exposure, which should be at least double that previously given.

NOTICE TO ENQUIRERS.

Answered by post: H. Greene, Rev. A. J. T. Le Gros, C. W., W. P. J. Fenwick, Mrs. Frere Norton, Gramophone, J Duthie, P. A. F., H. L., Wallace Heath, H. McNeil, Bromsgrove, T. L. Baker, R. G. Salmon, A. W. Cobbold, J. H, Professional, Harringay Park, Carey Thompson, E. R. G, H. E. Habershon, Constant Reader, J. N. Alves, Q, H. Preston, Klito, T. D. A., G. Frith, A. E. Pierce, Chas. Inderwick, Bromide Tonor, M. Black, Intensifier, F. W. I., H. L. E. Collingridge, W. Sanford, Notting Hill, S. B., L. Partridge, C. A. E., Glycin, J. G., T. Margerison, D. Ewen, Walter Wade, W. Searey, Hypax, S. Dunlop, Portsmouth, F Le Conteur, Lanternist, H. Jenyns, O. N. Ellice, T. L. Stoner, T. S. R., W. R. E. Allen, J. McDiarmid, E. F. Pizzey, H. B. S., Rawtenstall, Nameless, Grimsby, S. Whittinghame, Dispenser, T. Cobb, T. M W., Arsenic, F. H. Cobley, G. Moreton Prince, B. O. E., George Sutcliffe, Aspic, Tom Moor, Kodaker, Marshall Brand, W. Rothes, Stockport, Burton-on-Trent, S. Reid, T. J. Linford, E. Flair, W. T. Norton.

A New Camera Attachment for Small Photographs.

THERE appears to be at the present time a considerable demand for photographs of postage-stamp size or slightly larger, and a device that will facilitate the taking of the negatives and the exposing of the prints is worthy of close examination by those who desire to provide themselves with the latest labour and money-saving appliances. Such apparatus is Fidler's patent dividing back and the patent repeating printing frame sold by Mr. Jonathan Fallowfield, of 146, Charing Cross Road, W.; and also, we are informed, by Messrs. Marion and Co. and Messrs. G. Houghton and Sons.

The apparatus is made in various sizes to fit quarter-plate, half-plate, and whole-plate cameras. The No. 1 or quarter-plate size can be had to take either nine, twelve, or fifteen pictures on one plate. The No. 2 or half-plate size takes eight, eighteen, or twenty-four pictures, while the No. 3 or whole-plate size can be arranged for different sizes as required. It will be noted that the number of pictures for which a back is arranged must be adhered to. For example, if the quarter-plate size is arranged to take twelve pictures it cannot be altered to take nine or fifteen at will.

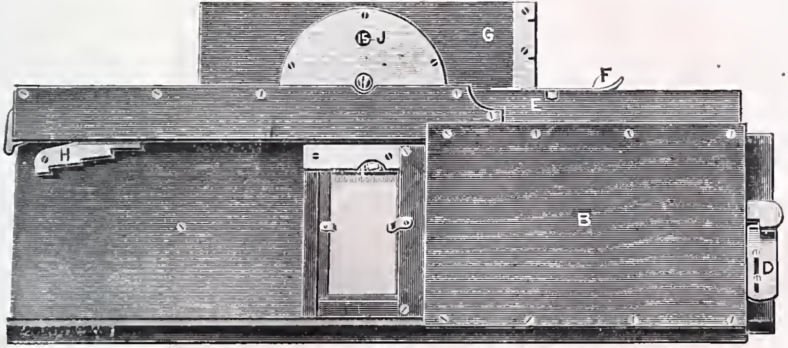


Fig. 1.

The general appearance of the back is seen in fig. 1. The horizontal frame can be raised or lowered on the support G. B is a sheath into which the dark slide is fitted, and may be pushed along the frame, bringing different parts of the plate over the central opening, while by lowering the horizontal frame a second row of pictures may be taken. Turning to fig. 2, A is the dark slide, which is pushed into the sheath B; the lock catch D is released, and the shutter catch on, the back is fastened. When the thumb lever F is in the top notch of G the ground-glass is in position to permit the first picture in the row at the bottom of the negative to be focussed.

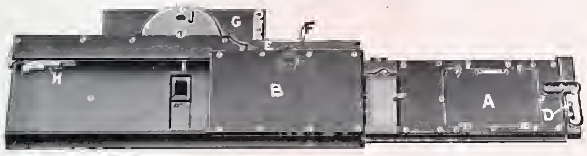


Fig. 2.

When the image has been focussed the slide body A is drawn forward till stopped by the first step on the spring lever H. The exposure is then made, and the slide is returned to the sheath B. The forward and return movements open and close the shutter of the slide and record the number of exposures made. On drawing the slide across for the second time it is stopped by the second notch in the lever H, and when the first row of pictures has been completed the main horizontal body is dropped one notch to take the second row, and so on.

The repeating printing frame (figs. 3 and 4) is an equally ingenious arrangement, by which any number of proofs may be printed on strips of bromide paper from any selected negative on the plate. The flap A and lever B are opened as in fig. 3. The pressure board C and the clip D are taken out, and the negative is placed in the inner frame E, care being taken to place the negative wanted over the opening. The strip of paper (12½in. by 4¼in.) is placed between the guide pieces T T with one end butted against the stop W. The pressure board is then replaced, and a quarter of an inch of the paper is turned up and clipped by G. The pointer L, if all has been correctly arranged, will register in the first of the dividing holes, when A and B are turned over, as in fig. 4, and the frame is lifted up to the light and the first exposure made. By shifting the pointer the second section of paper is brought into view, and so on till one row of pictures is completed, when the negative is adjusted for the second row, and the third and fourth rows in turn as required.

The description of the mechanism may take longer to read than the time occupied in exposing the whole of the paper, as the movements are very speedily made.

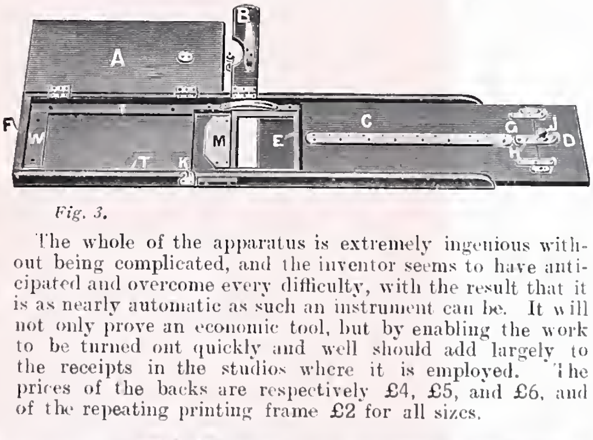


Fig. 3.

The whole of the apparatus is extremely ingenious without being complicated, and the inventor seems to have anticipated and overcome every difficulty, with the result that it is as nearly automatic as such an instrument can be. It will not only prove an economic tool, but by enabling the work to be turned out quickly and well should add largely to the receipts in the studios where it is employed. The prices of the backs are respectively £4, £5, and £6, and of the repeating printing frame £2 for all sizes.

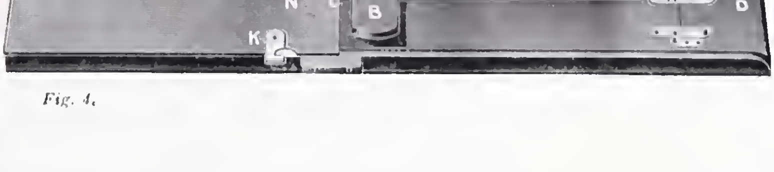
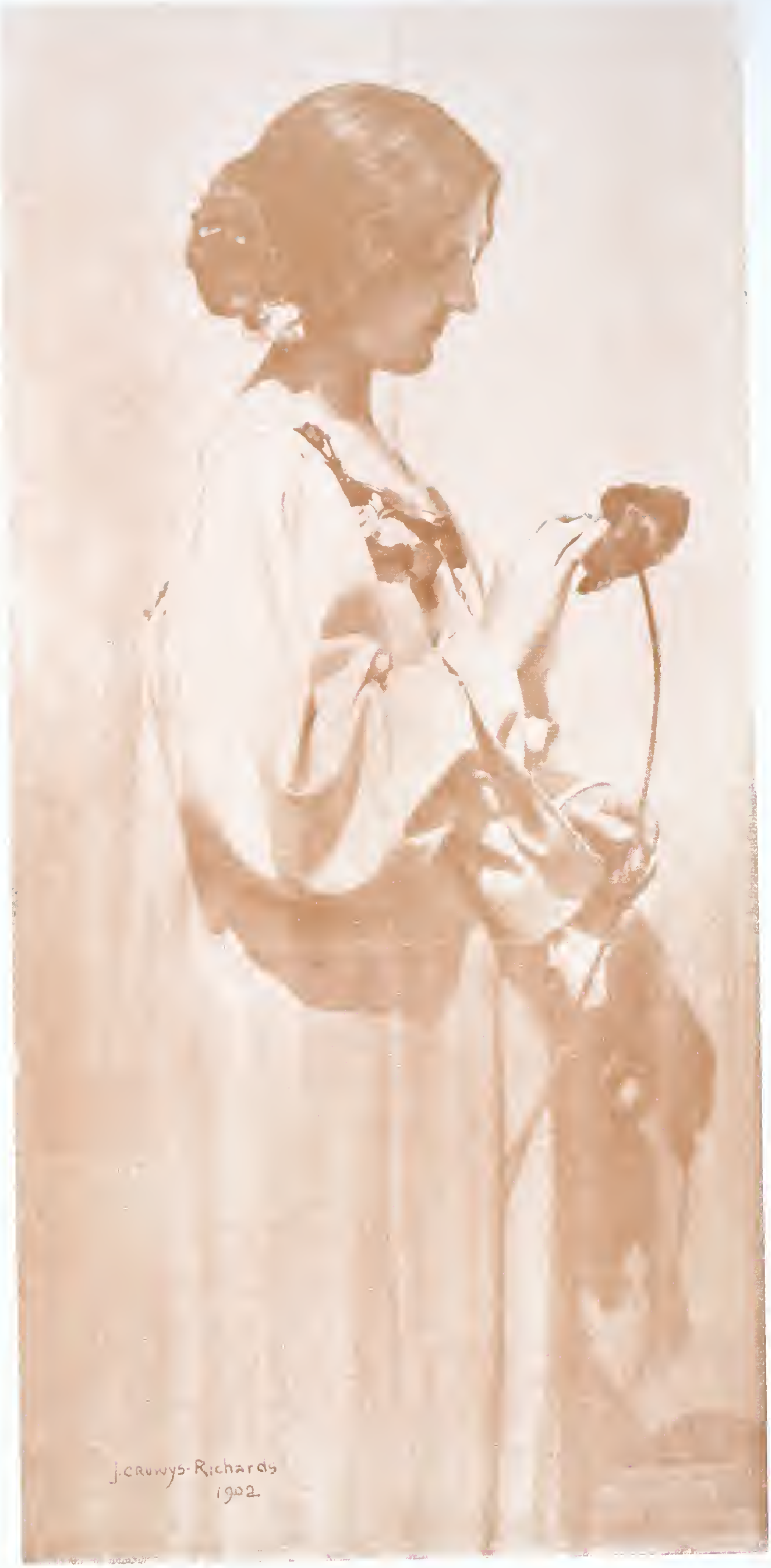
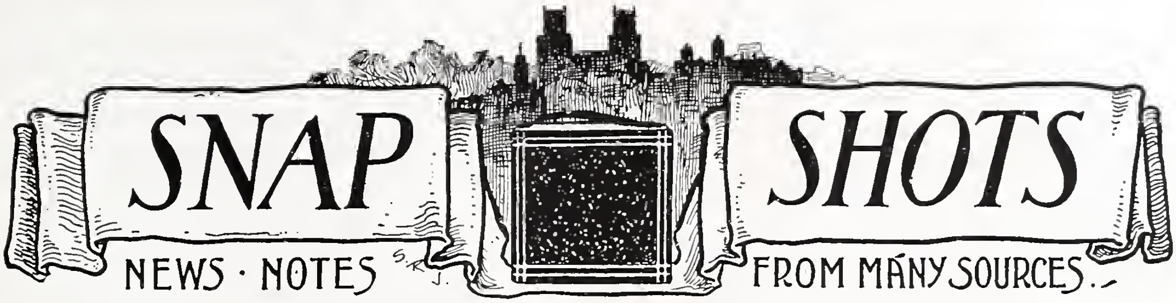


Fig. 4.



POPPY. BY J. CRUWYS RICHARDS.

(" *Pictures from the Two Exhibitions,*" *No. 51, see page 493.*



The Brierley Hill and District Camera Club will hold an exhibition from February 15th to 27th.

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Ilford, Ltd. At the annual general meeting of shareholders of this company, held on Friday in last week, Messrs. Ashmole and Smith were added to the board.

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The Kodak Winter Book contains brief instructions for using the various Kodak appliances useful for photography in the winter months. Copies will be forwarded to those of our readers who apply to Kodak, Ltd., at 41-43, Clerkenwell Road, E.C.

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The executive committee of the affiliated societies has organised two competitions—one for prints, and the other for lantern slides. Both prints and slides must be entered through the affiliated society of which the maker of them is a member. Bronze plaques will be awarded to the winners, and certificates to the societies entering the best, second, and third best collections. Entries for the prints close on January 23rd, and for the slides on February 13th. Full particulars are given in the circulars issued by the committee.

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Putting clouds into lantern slides was demonstrated at the Coventry Photographic Club on the 25th ult. by an original method due to Mr. Riley, one of the members. He first took a cloud negative and placed it in the printing frame film upwards. On the top of this he placed the landscape positive free from clouds, also film upwards. Then he placed on this the lantern plate, fastened the frame, and exposed, shading off with cardboard the landscape portion. After development he obtained on the lantern plate a good positive cloud with the image of the landscape faintly showing. This he placed by superposition in contact with the landscape slide, and the combination produced a very effective lantern slide, with landscape and clouds showing as if on the same plate.

Mr. Harry Wade has been appointed demonstrator of Messrs. J. J. Griffin and Sons' goods in Lancashire and North-west England. Secretaries of societies are invited to apply for dates. Mr. Wade's address is 29, Blackfriars Street, Manchester.

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At the Great Yarmouth and District Camera Club, a slide competition was held on the 1st inst. In the landscape section, Mr. C. Rumbold, M. Morgan, and W. Johnson were placed first, second, and third. In the architectural section, Mr. W. Johnson was first, Mr. T. J. Wigg second, and Mr. Morgan third. In the architectural print competition, Mr. A. Howard came first and Mr. T. J. Wigg second. Mr. S. T. O'Grady read a paper on "Hand Camera Work."

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Ozotype was demonstrated at the Goldsmiths' Institute on the 1st inst. by Mr. F. Manly, who emphasised two important points. The washing of the printed paper should cease immediately the border around the image left by the rebate of the printing frame becomes clean and white; and, secondly, that ten seconds is the utmost limit of time during which the print should remain in the acid bath before squeegeeing it to the pigment plaster.

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A loan exhibition of prints by all the known photographic and non-photographic processes was organised by the Borough of Tynemouth Photographic Society, and was open from the 25th to the 28th ult. The collection was well arranged, kindred processes following each other in the catalogue in chronological sequence; positive silver processes, for example, beginning with examples of photogenic drawings invented by Fox Talbot in 1839, and leading through various popular or rarely practised methods to the gelatino-citro-chloride prints on papers made by Kodak, Ltd., and the Ilford Co. The educational value of such collections can hardly be over-estimated, and the Tynemouth Society is to be congratulated on the success of its efforts.

Pictures from the Two Exhibitions.

The pictures which, by the courtesy of the exhibitors, we reproduce this week are:

49.—Zuleika. By W. Crooke, 103, Princes Street, Edinburgh. (No. 104 R.P.S. Invitation Section.)

50.—An Italian Fruit Stall. By Percy Lewis, 25, Whiteladies Road, Clifton, Bristol. (No. 131 R.P.S., 14in. x 9½in., £4 4s.)

51.—Poppy. By J. Cruwys Richards, Wysdael, Maple Road, Bournville. (No. 39 Salon, 13½in. x 7in., £1 10s.)

52.—Sea Treasures. By Dr. Crump, 66, Bank Parade, Burnley. (No. 184 Salon.)

53.—Knitting Girl. By Mrs. Jeanne E. Bennett, 122, Windermere Avenue, Baltimore, Maryland, U.S.A. (No. 52 Salon, £1.)

54.—A "Passed Centuries" Impression. By C. Winthrope Somerville, Lyrath, 117, Hazelbank Road, Hither Green, London, S.E. (No. 216 Salon, 9in. x 6½in., £2 2s.)

We have given the addresses of the exhibitors themselves this week, as the exhibitions are now closed. When a price is given it is for the picture framed, as exhibited, the sizes being the dimensions of the print excluding frame and mount.

SEA TREASURES.

BY DR. T. G. CRUMP.

(*"Pictures from the Two Exhibitions," No. 52, see page 493.*)

Correspondence

For the free discussion of all matters of general interest to Photographers

The Editor is not responsible for the opinions of his correspondents.

A DOUBLE IMAGE WHEN ENLARGING.

Sir,—May I venture to suggest a solution for the problem which one of your correspondents raises about a double image on his enlarging screen? Is not this due in all probability to a pinhole near the lens? This would project an image on the screen which would be more noticeable after long exposure. Yours, etc.

LAURANCE SWAINSON.

PHOTOGRAPHY IN HOLYROOD.

Sir,—There would appear to be some misunderstanding about the difficulty in photographing in Holyrood referred to in your issue of the 28th ult. I was there in September and made some hand camera exposures in the ruins of the Chapel Royal without hindrance. On erecting the tripod the custodian, who had been present all the time, told me that I might not do so without a permit, at the same time stating that I was quite at liberty to use the hand camera. Another photographer arranged his hand camera on a flat tombstone without being checked, although the custodian was passing to and fro. I did not actually make an exposure in the rooms of the Palace, but carried a camera of the folding type open and openly without any of the attendants with whom I spoke saying anything against it. Yours, etc.,

J.. McINTOSH.

A MARGINAL TINT ROUND A CARBON PRINT.

Sir,—Regarding your answer to a correspondent in last week's *Photography,* it has been my practice to remove the margin with a stiff bristled brush, while the print is still under development. This, of course, requires a certain neatness of hand; but who shall have deft fingers if not the photographer? The power which this method gives of printing a small photograph in the centre of a large sheet of white paper constitutes, to my thinking, one of the chief advantages of the carbon process.

Yours, etc.,

W. ADAMSON FOULIS.

PICTURE POSTCARDS FOR PROFESSIONALS.

Sir,—I think the writer on postcards for professional photographers in last week's *Photography* misses the real point when he passes over bromide and other purely photographic postcards in favour of collotype. Collotype is a little out of the line of professional photographers. What is wanted is something that will employ the workers in the studios who have to be paid, and in a dull season are often doing nothing. A trade in collotype would not do that.

Printing postcards on some gaslight bromide paper would give them plenty to do, and they would soon find a market for them. Even to retail at 2d. each they can be made to pay, and one cannot get 8d. per dozen from stationers for collotype cards, for the simple reason that travellers from large wholesale houses and from collotype firms are calling regularly and offering to make them collotype postcards at 3½d. per dozen to sell at 6d. per dozen. I have tried collotype, and after paying £6 for six thousand collotype postcards and supplying the negatives, I only get all told £8 for them from the stationers, which left me a profit of £2 for taking and making twelve good negatives (half-plate); so you see that collotype postcards do not pay very well here.

No, but bromide cards do this season. I have used over thirty thousand (near to forty thousand by this time), have only done them to order, and have made them pay very well

One thousand postcards cost me £1 13s. 4d.; I allow 6s. 8d. for developer and hypo (and wax to polish the drying plates), which brings up the cost to £2 per thousand. I get 18s. per gross for them from the stationers, which brings me £6 per thousand, leaving a clear profit of £4 per thousand. I can do in one day from five hundred to eight hundred postcards in good weather, and during the season I had a regular output of two thousand per week, although I was attending to my other work as well, and with no assistance except a boy.

I can get as many to do as I want, and have been asked to supply other firms and have had to refuse, having no time to take the negatives. There is in my experience a lot of room for professional photographers in this line, as people willingly pay 2d. for a good bromide card, and consider it better value than an inferior collotype at ½d.

If any of your professional readers want something for their idle hands to do, let them take up picture postcards. I have visited a number of studios this year, and the cry all over is dull times and bad weather, while I have been so busy with postcards that at times sitters were a nuisance.

Long may the postcard boom last. It is a good thing, and the man who lets the chance go has only himself to blame. Yours, etc.,

J. PEAT MILLAR.

Sir,—I was more than delighted to know who made the blocks for my article on "Pictorial Postcards." They are made by a firm that knows how to make them, and printed by one that knows how to print them, and my remarks *re* blocks for postcards do not hit them at all, but rather those who do not know how to print blocks.

There is one point I did not make clear in my article, and that is that I prefer the roughest surface collotype cards to smooth ones.

I also find that block-printed cards do not sell so well as the roughest collotype cards. I admit that the most detail can be got out of a block-printed card, but there is a quality about a rough surface collotype card that no block can give. It is just that difference that there is between a P.O.P. print and a good C.C. platinotype, and all photographers know what that quality is.

Yours, etc.

S. L. COULTHURST.

MR. BENNETT'S PAPER ON CARBON PRINTING.

Sir,—I would like to thank you for the able paper by Mr. Bennett, which appeared in one of your issues in October, on modifications in the sensitising of carbon tissue.

Carbon workers in the colonies are obliged to sensitise their own tissue, and Mr. Bennett's paper is of peculiar interest to such.

Since reading the account of Mr. Bennett's experiments, I have been using his A bath with some autotype tissue three years old, and the results are all he claims for it. The sensitised tissue is about equal to Ilford P.O.P. in speed, and develops up rapidly with quite unusual brilliance and freedom from blisters. Hitherto I have used the five per cent. bichromate bath recommended by the Autotype Co., but in future I shall use Mr. Bennett's A bath, and can cordially recommend it to other amateur workers who only require a few sheets at a time.

Yours, etc.,

Capetown. EDWARD J. STEER.

TRAILL TAYLOR MEMORIAL LECTURE.

Sir,—I shall be much obliged if you will permit me to remind the readers of *Photography* that the Traill Taylor memorial lecture will be delivered by Sir Wm. de W. Abney on the 14th December at 8 p.m., at the rooms of the Royal Photographic Society, 66, Russell Square, W.C.

The subject of the lecture is, "Some Points connected with Landscape Three-colour Photography." Sir Henry Trueman Wood has kindly consented to take the chair.

I am sending a supply of admission tickets to the London and suburban photographic societies, but if it should be inconvenient for anyone to obtain them through these channels I shall be happy to send them direct on receipt of a stamped envelope. Yours, etc.,

88, Evering Road, London, N. P. EVERITT.

The Week's Meetings.

THURSDAY, DECEMBER 10TH.

Glasgow Eastern. Critique of Exhibition. A. Cochrane.
N W London. Sinop. A. W. Penrose & Co.
Hull. Lantern Night.
Batley. Majorca. Elliott & Sons, Barnet.
Rodley. Members' Portfolio.
Gateshead. Gum-bichromate Printing. C. H. Hewitt.
Richmond. Bees. — Oetzmann.
Hastings Lecturette Evening.
Leigh Enlarging of Prints and Negatives. Dr. H. Hall.
South Norwood Members' Lantern Slide Competition.
Liverpool A. Lantern Lecture. Messrs. Taylor, Taylor, and Hobson.
L. & P Demonstration. —. Brooker.
Bolton. Trade Demonstration. R. Hesketh.
Rugby. Intensification and Reduction. A. W. Fell.
Watford C.C. Christmas Card Competition. Members.
Handsworth. Lantern Slide Making. C. R. Proctor and F. Smith.
Maidstone Co-operative Photographers. Lecture.

FRIDAY, DECEMBER 11TH.

Leicester Lit. and Phil. Lantern Night. Rajar Changer. G. E. Rushworth.
Boro' Poly Trimming, Mounting, and Framing. F. W. Bannister.
Southampton. Exhibition opens.
Whitby. Hand Camera Photography. Wallis Bros.
Walsall. Bromide Paper. W. Bullock.
Weymouth. Trade Demonstration. W. F Slater.
Plymouth. Lantern Evening for Members only.
Aberdeen Print Competition
Wimbledon. Enlarging at Home. A. W. Green.

SATURDAY, DECEMBER 12TH.

Durham City. Developing of Exposed Plates. A. B. Gardiner.
Ashton-under-Lyne. Photographic Exhibition closes.
Norwich Teachers' Field Club. Cloud Printing. G. A. Harrison.

MONDAY, DECEMBER 14TH.

South London. Platinum Printing. H. C. Beckett.
Ilford. Social Evening.
Halifax. Members' Summer Work. Slides and Prints.
Bradford. Holidays in Lakeland. G. Thistlethwaite.
Southampton. Exhibition Lantern Slides.
Sunderland. Printing in Gum Bichromate K. S. Yeaman.
Kingston-on-Thames. In Roman Africa. A Vandendriesche.
Luton. Rotograph. W. R. Sims. Gaslight Papers. M. Barford.
Bournemouth. The Ozotype Process. T. Manly.
R.P S. Traill-Taylor Memorial Lecture. Sir W. de W. Abney.

TUESDAY, DECEMBER 15TH.

R P S. Lantern Lecture. G. Lamley.
Blairgowrie. Architecture. J. Richardson.
Birmingham. Negative Making. J. H. Gear.
Brentford. Lantern Night. Negative and Print Competition.
Holmfirth. Mounting Prints G. Holdsworth.
Goldsmiths' Institute. Lantern Evening.
Heaton. Members' Negatives and Prints for Mutual Criticism.
Thornton Heath. A Motor Trip through East Anglia.
Hackney. Cloud Negatives and Printing. H. W. Bennett.
Chiswick. Lumière Colour Photography. Lumière N. A. Co.
Morley College Trimming, Mounting, and Spotting.
Glasgow Southern. Lantern Night
Hove Wave Photography. F. J. Mortimer.
Monklands. Flower Photography. R. Burnie.
Blaydon. Gum Bichromate Process. J. T. Carnaby.
Darlington. Defects and their Remedies.

TUESDAY, DECEMBER 15TH *(continued)*.

South Shields. Carbon Printing. C. H. Hewitt.
Yeadon. Films H. Crossley.
Nelson. Members' Lantern Slide Evening.
Nottingham. Cycling in the High Alps. E. G. Leighton
Isle of Man. Carbon Printing. W. H. Skillicorn.
Devonport The Platinotype Process. A. J. Catford.
Scarborough. Lantern Night.
Jersey. Members' Slides.
Newcastle-on-Tyne. Informal Meeting.
Warrington Lantern Slides of Bristol. Rev. Carnson.
Shropshire. Ordinary Meeting

WEDNESDAY, DECEMBER 16TH.

North Middlesex. Intensification and Reduction. J. McIntosh
Everton. Annual Meeting
Chester. Christmas Cards and Postcards.
Leeds C.C. A Modern Newspaper. J. E Thornton.
Bristol. After Treatment of Negatives T. W Brown.
Glossop Y.M C.A. Bromide and Gaslight Paper.
Boro' Poly. Lantern Night. Exhibition Entries close.
Chiswick. Lantern Slide Making. T. A. Coysh.
Cricklewood. Plate and Paper Making J. Stevenson.
Balham. Enlarging. A M. Partridge.
Consett. Members' Night.
Wimbledon. What can be done with a Hand Camera. C. P. Goerz.
Leicester. "A Salonette Exhibition by Members of the Unlinked Ring.
Birmingham Telegraphs P S. Short Papers.
Aberdeen. Enlarging Demonstration. W. T. Borthwick.
Coventry. The Carbon Process J. T. Bates.

THURSDAY, DECEMBER 17TH.

Glasgow Eastern. Toning Methods. W. Goodwin.
N.W. London. A Trip to Coutances. A. J. Reid.
Hull, Burgundian Churches. J V. Saunders.
Batley. Members' Lantern Slides.
Chelsea Lantern Lecture. A Trip to Arran. A. S. Long.
Ealing, Majorca.
Blackburn. Gaslight Papers. W. Duxbury.
Darwen. Pictorial Photography. A. W. Cooper.
Tynemouth Snapshots in a Shipyard. J. A. Mitchell.
Richmond. Paper by F. P. Cembrano.
South Norwood. Hand Camera Photography. Wallis Bros.
Liverpool A. Lantern Lecture Lieut.-Col. J. Pilkington.
L. & P. Photomicrography. T. E. Freshwater.
Pudsey. Social Evening.
Bolton. Lantern Lecture. — Roberts.
Southport. A Talk on Art and Photography. C. H Brown.
Watford C.C. Negative Making. Chapman Jones.
Handsworth. Trade Demonstration. W. J. Slater.

FRIDAY, DECEMBER 18TH.

East Liverpool. General Meeting.
Boro' Poly. Optical Lantern J. S. Coysh.
Watford P.U. Lecturettes by Members.
Simpson Memorial Schools. Platinotype. C. H. Brierley.
Walsall. Trade Demonstration. W F. Slater.
Weymouth. Carbon Printing. H. Cumming.
Plymouth. Members' Open Lantern Evening.
Bromley. The Manufacture of Photographic Lenses. H. L. Aldis.
West London. Majorca. G. E. Thompson.
Reading. Hand Camera Photography. E. F. Wallis.
Aberdeen. Toning and Mounting Prints. J. Milne.

SATURDAY, DECEMBER 19TH.

Southampton. Exhibition closes.

Societies will have their meetings announced here if the syllabus is sent to us at the beginning of the Session, or from time to time.

Patent News.

The following specifications of patents relating to photography have been published, and copies may be purchased at an uniform price of 8d., at the Patent Office, Sale Branch, 25, Southampton Buildings, London, W.C. The price of the specifications includes postage to any part of the United Kingdom. The additional postage to foreign countries is usually ½d. per specification. Postage stamps must not be sent on payment of any amount exceeding 11d. In ordering the name of the patentee and both the number and year of the patent must be given.

1902.

24,364.—Dickson. Apparatus for taking and viewing stereoscopic panoramic scenes.
27,240.—Animatograph Co., Ltd. Kinematographs.
27,896.—Gros and Ostwald. Reproducing pictures.
28,503.—Rice. Stereoscopic printing frames.

1903.

3,058.—Popowitzky. Cameras.
7,580.—Chambers. Washing apparatus.
8,104.—Burgess and Leigh. Developing dishes.
20,674.—Jaffé. Apparatus for daylight development.

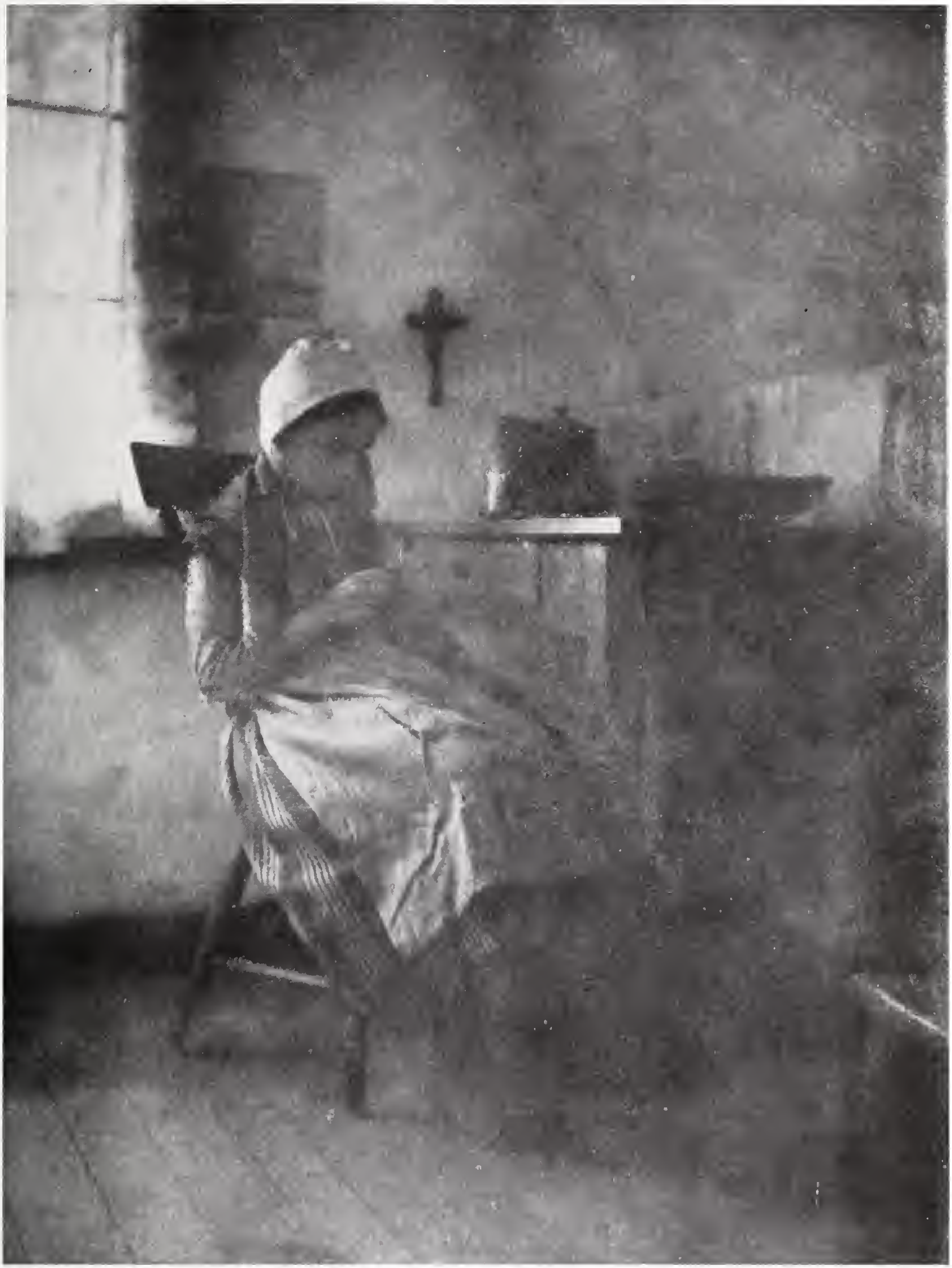
Avizandum.

The sheriff took the case,
You say to "avizàndum";
Now have you written right,
Or did you write at random?

"Pursuer" and "deponed,"
Though queer, I understand 'em,
But very double dutch
To me sounds "avizàndum."

Perhaps the proper way
Rhymes it with "bedizened'em,"
The accent further back
Pronouncing it "avìzandum."

Explain before such words
Burn on my brains and brand 'em
Who, whether, what, or which
Avìz or avizàndum. WEST SURREY.



KNITTING GIRL BY MRS. JEANNE F. BENNETT.

("Pictures from the Two Exhibitions," No. 753, see page 493.)

The Hull Photographic Society's Exhibition.

The Hull Society is one of the few that rely entirely upon the efforts of their members only to furnish the pictures for the annual exhibition, and whose members justify the reliance placed on them. We are at all times in favour of the abolition of classes and awards, and the success achieved by this society on these lines warrants its adoption by other bodies strong enough to make the attempt.

A bold experiment was made in lining the walls with green baize in place of the brown paper used last year. On the whole the change was for the better, as the bulk of the frames were of the plain brown and green stained type that harmonise well with the backing, and separated the prints from their surroundings without aggressively attracting attention. A large proportion of the prints being by the carbon and toned bromide processes the general effect was good.

A creditable advance has been made by the exhibitors over the work shown last year, and amongst those who contributed to the general improvement, Mr. A. G. Peck has done much. His work is strong, and he shows considerable skill in managing his subjects, "The Great Pyramid" claiming attention, while "Oratava" and "Feluka" were meritorious in the treatment of the water. Mr. F. Atkinson's "Bit of Old Whitby" is a good thing, and Mr. W. R. Locking's series of views in the Lake District were marked by much appreciation of atmospheric effect. "The Beach at Evening" is worthy of the reputation that Mr. Woolons has already gained, and a "Moorland Path" is a fine bit of composition. The simplicity of subject and the harmony between sky and landscape are characteristic of his work.

Adel woods are represented by two of the exhibitors, Messrs. Haldane and Somerscales, the former having a fine effect of trees against a dark background, and the latter a taking picture of the woodland, though different in style. Amongst other pictures that we noted were several by Messrs. Dalton, Cockcroft, Gilleard, Hards, and others, Mr. Hards's "Beverley Minster" being a fine bit of lighting. Groups, portraits, natural history, animal studies, and still life were all represented, though, as is always the case, landscape and architecture were the subjects in which the exhibitors excelled.

The attendance was good, and proved that the good people of Hull take an appreciative interest in photography and the work of the society.

The North Middlesex Photographic Society's Exhibition.

Amongst Metropolitan photographic societies the North Middlesex enjoys an enviable reputation for the high standard of work reached at its annual exhibition, in spite of the fact that the exhibits are limited to the work of its own members, and that there is no profuse distribution of medals. As a rule the awards number six or eight, and are of equal value, being the society's certificate of merit.

The exhibition, which was opened to the public at the end of last week, shows no falling off in quality, although perhaps it is not too much to say that it does not chronicle any marked advance. The judges, Messrs. J. C. S. Mummery and J. B. B. Wellington, state that "As purely a members' show, we think the exhibition as a whole will hold its own against similar shows amongst photographic societies. There are one or two prominent members whose work is distinctive in landscape, but the exhibition is weak in portraiture. In the slide section, the majority of the slides suffer from a want of transparency in the shadows, caused in many cases by the attempt to procure warm tones."

The award winners are as follows: Messrs. H. Stuart, R. Child Bayley, A. G. Lawson, S. E. Wall, J. G. Randall, F. T. Pitts, for prints; and for transparencies, Mr. Louis Dick and Mr. W. P. Grosvenor.

A noteworthy departure in the North Middlesex exhibition this year is "The Record Section." Some three dozen prints are shown in this, and although all have been taken within the last twenty years, it suffices to illustrate the urgent necessity of some such photographic survey of the North of London before the many objects of historical and archæological interest which it contains have been obliterated by the rapid advance of the city and the operations of the speculative builder.

A Notable Book on Bird Photography.*

We were reminded by Mr. Lodge's recent exhibit at the New Gallery that eight years had elapsed since he was deservedly awarded the R.P.S. medal. Mr. Lodge has allowed these eight years to pass without producing a book—a delay for which the work which lies before us is, in itself, sufficient justification, for "Pictures of Bird Life" will be the classic of bird photographers for many years to come.

The bird photographer is, or should be, a naturalist first and a photographer second. His aims should be scientific rather than popular, and the sensational features of bird-stalking with a camera should receive in his writings a due but not an exaggerated appreciation. In these respects Mr. Lodge's book stands, to our mind, in a class by itself. The letterpress is at once modest, unsensational, and convincing. It is also, to a high degree, informative. Take, for example, the obviously first-hand description of the bearded titmouse (pp. 210-216), or of the nesting spoonbills in chapter viii.

It is with the photographs, however, that our criticism is mainly concerned. We would at the outset make a mild protest. It is against the tip-tilting, either of nest or camera, which bird photographers indulge in, in order fairly to display a full clutch of eggs. This we regard as both unnecessary and misleading—unnecessary, because the normal number of eggs laid by any particular bird is in most cases fairly agreed upon; misleading, because it gives a false impression of the relative position of nest and surroundings. In the case of an abnormal clutch matters are at once on a different footing, and we would accept the picture of the missel-thrush's nest on p. 43 as perfectly justifiable for this reason.

The eight coloured plates are an important and distinctive departure. We imagine that they are three-colour reproductions of painted photographs. It is also reasonable to assume that, in common with some of the half-tone blocks, they have benefited by Mr. Lodge's skill as artist and engraver. Whatever may have been the means employed, there can be no question as to the excellence of the results. The plate of the kittiwakes facing p. 194 strikes us as a masterpiece. Technically, pictorially, and zoologically, it is completely satisfying.

Of the half-tone blocks we would single out those on pp. 34, 56, 80, 106 (the upper picture), 219, 243, and 333, for especial commendation. So intelligible and so characteristic are these photographs that one might almost imagine that they had been deliberately planned. Nor is this altogether impossible. The picture of the Kingfisher on p. 130 provides us with one of the most extraordinary photographic coincidences in our experience. The reader should compare it with the picture on p. 208 of Mr. Pike's "Woodland, Field, and Shore." The localities are evidently identical, the photographs are upon the same scale, and there is but trifling difference in the positions of the bird.

Mr. Lodge devotes his first three chapters to his methods. He is a strong advocate of the modern form of telephoto lens. He also recommends an electric shutter release, actuated by the passage of the bird itself. We believe he was the first successfully to employ this ingenious stratagem. The only "property" we notice is a green bag of sufficient capacity to contain both camera and operator; but the keynote of the book is patience, and, for presenting the results of his patience in such pleasing form, Mr. Lodge deserves well of every photographer and of every naturalist.

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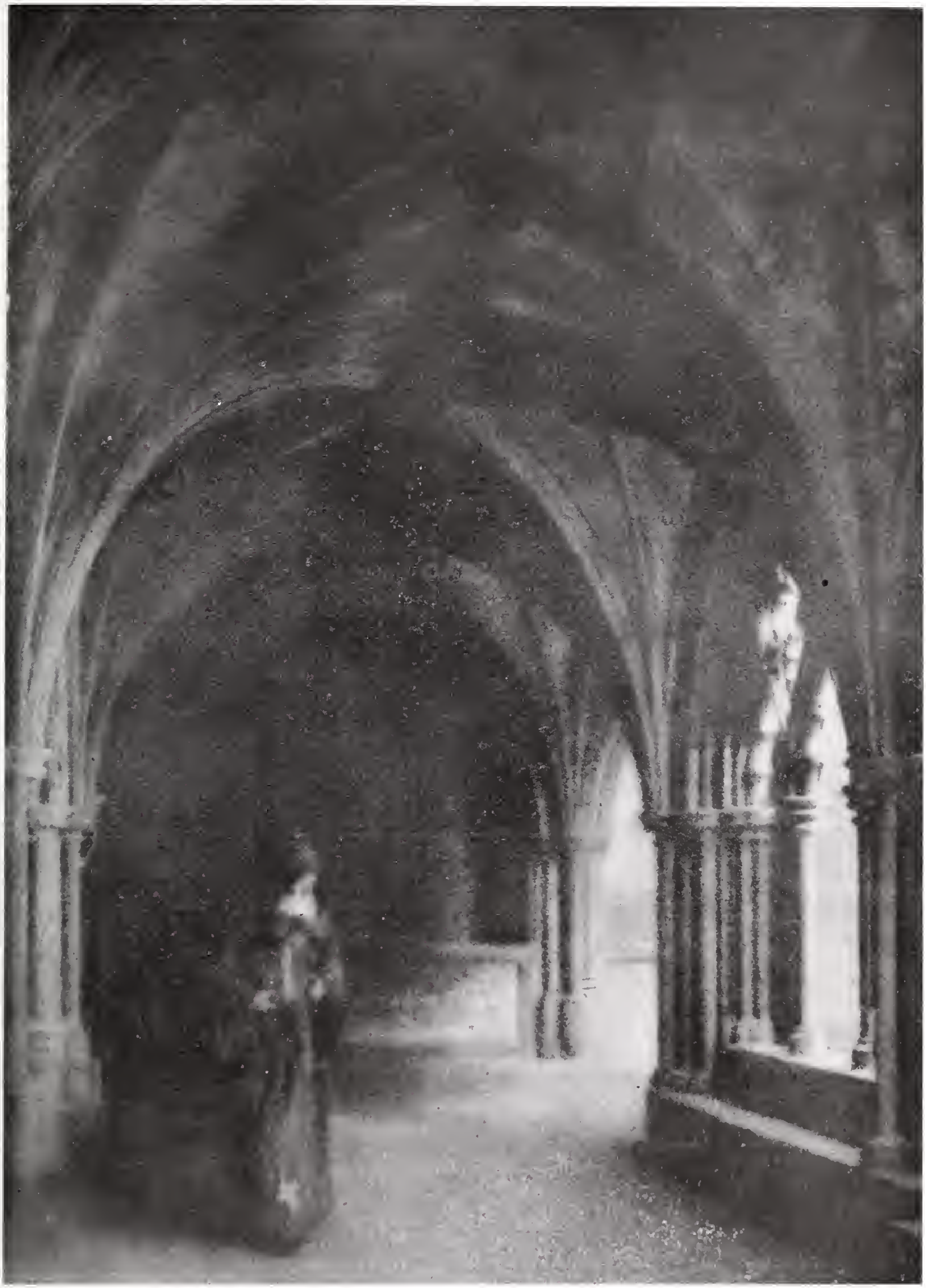
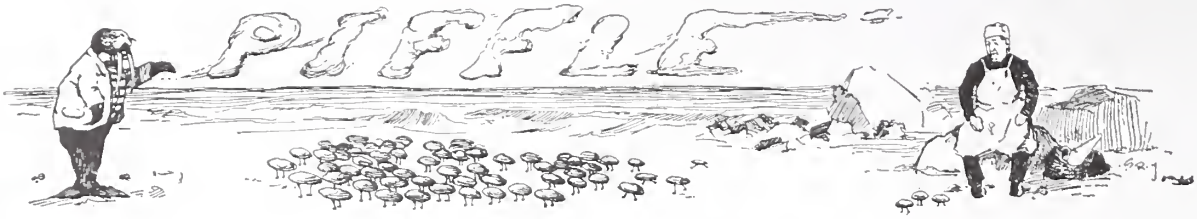
*"Pictures of Bird Life," by R. B Lodge, with numerous colour and half-tone illustrations. London, Bousfield and Co , Ltd. 27s. 6d. net.



A "PASSED CENTURIES" IMPRESSION. BY C. WINTHROPE SOMERVILLE.

("Pictures from the Two Exhibitions," No. 51, see page 493.)



"The time has come, the Walrus said, to talk of many things."

AS I now lay down the *Daily Mirror*, I can place my hand on my heart and well and truly declare that I have not enjoyed myself so much since I had the measles. Prithee, gentle reader, when thou desirest to taste the sweets of literature and the fierce joys of unconscious humour, read the *Daily Mirror*. It will do thee good. Laugh? I have laughed my ribs loose. But I have learnt somewhat from it, too. When the Royal photographer takes a Royal group it is King Edward who selects the spot and the background, and hustles the victims into a bunch. I can understand now why Royal photographers are not oftener hanged for their results.

* * *

I have learnt likewise that Queen Elena of Italy, on her recent visit, brought her hand camera and surprised her royal hosts with various unexpected shots. The bag for the day included "rabbits and lordly pheasants, and a fine red deer which had crossed the line of fire."

* * *

This is the season of the year when the photographer can most readily secure atmospheric effects in the shape of clouds, bronchitis, misty distances, asthma, tender greys, and the snuffles. So don't put your camera away. Take it out, and give it a chance to come unglued. The slides will swell and jam in the grooves, the bellows will crack, the wood warp, the brasswork tarnish, the rubber tube perish, the spirit-level freeze, the focussing-cloth blow away with your hat in it, the tripod disappear in the mud. Never mind! Send your obituary notice along to the editor, and defy the elements. Go out early, and stop out late. Now is your chance—and the undertaker's.

* * *

Some people foolishly stay at home. They arrange their negatives on a new and original plan, so that some are never found again from that day forth, and even for evermore. They make lantern slides that kill at fifty yards, and produce gaslight prints that are a terror to evildoers. They turn out photographic Christmas cards that convert their dearest friends into uncompromising foes. They tidy up their dark room, so that the servant appropriates it as a boudoir, and refuses to quit. They trim and mount scores of prints it would be but common decency to burn.

* * *

Be not one of these. Out you go! Out into the wind, snow, slush, fog, rain, murk, and mire. Others preach about winter photography—be it yours to practise it. Found a new school, or find the New Jerusalem.

* * *

Let your watchword be "The Salon or the cemetery."

* * *

What! you have been advised to sell your camera and buy a new one next spring? Nonsense. Take your camera out all the winter, and you won't want one next spring. And your executors will realise a better price for your apparatus next season than you can get now. Out you go!

* * *

J.A.Y.—The term "flash bags" may, as you say, be applied to "swagger trousers," but in the case you name it is applied to little bags of flashlight powder. They are extremely useful. For instance, suppose you wanted to photograph the interior of St. Paul's Cathedral at night. You would simply suspend a little flash bag from the centre of the dome, and light the touch paper that is affixed, so that you need not touch the bag. You can also produce a startling effect by surreptitiously hanging one under a person's chair. Light the paper, retire to a respectful distance, and assume a nochalant attitude. After the event it is desirable to express unbounded astonishment at the inexplicable occurrence, which may generally be successfully attributed to the machinations of Marconi.

Some people expected high jenks at the Ilford meeting last week but were disappointed. The knobility of the chairman prevented most of the hectoring that was anticipated, and harmany prevailed.

* * *

I am an art critic.

* * *

That's right, be rude! It is an amazing thing how some persons find food for hilarity even in a simple statement of fact. They indulge in uncalled for laughter when wiser men would remain respectfully silent. I admit that I was not always an art critic. I was once an honest man. But when I remark that at the present moment I *am* an art critic there seems little justification for a display of unseemly merriment.

* * *

It happened thus. A reader sent me a print, with an earnest request that I would favour him with a careful criticism of it. I own that I was quite unprepared for anything of the sort, and even now I don't know what I had done to deserve it. A fellow author—— Well, really, if you are going to keep up this inexplicable sniggering I may as well stop altogether. I say a fellow author said that the print submitted was a "bit of kid." I don't know what he meant. My own opinion is that it is Velox, or Rotox, or Vegox, or something of the sort.

* * *

Anyhow, I admit that I felt myself quite unable to criticise it at first. You cannot become an art critic at a moment's notice. You must be evolved.

* * *

So I bought a slouch hat and a velvet coat, left off wearing collars, and let my hair grow. And now, as I said, I am an art critic. And don't you forget it.

* * *

I shan't, if you do.

* * *

Here, then, are my criticismatic observations on the print in question.

* * *

The *tout ensemble* is but so-so, while the chiaroscuro sadly needs resoling and heeling. The tone values are spurious; and though there is a great feeling of breadth about the whole thing, it is too narrow. It wants pulling together. The textures are not all wool. The composition is primeval. The tree (or man?) in the foreground should be placed behind the mountain. If the latter is not meant for a mountain it should be made into one. The river should be slightly diverted from its course by damming it (which it richly deserves), so as to submerge the portion of cow at the right-hand edge of the picture.

* * *

From these remarks you will see that you have produced a fine piece of portrait work. It is probably unique. At least, we hope so.

* * *

But do not rest here. Do not be satisfied even with this. You can do still better. Bleach the image completely and finally, wash the paper, dry it thoroughly, and then get a boy to draw something on it for you with a charred match.

* * *

And now I think I may go and get my hair cut.

THE WALRUS.

SUBSCRIPTIONS.

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PHOTOGRAPHY

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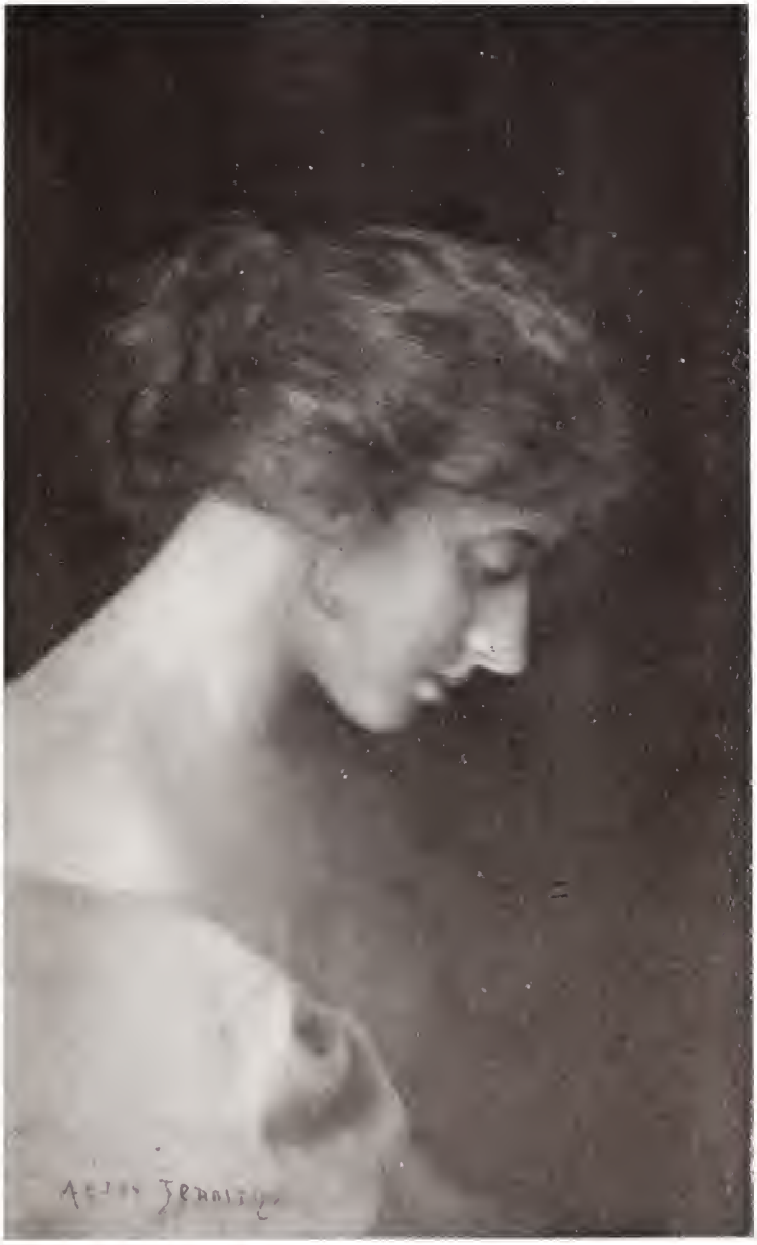
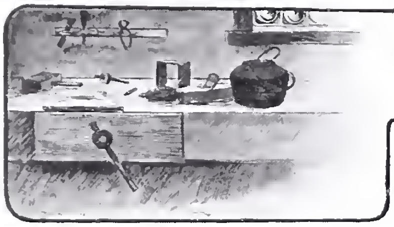


STUDY OF A HEAD. BY MISS AGNES JENNINGS.

("Pictures from the Two Exhibitions," No. 55, see page 501.)

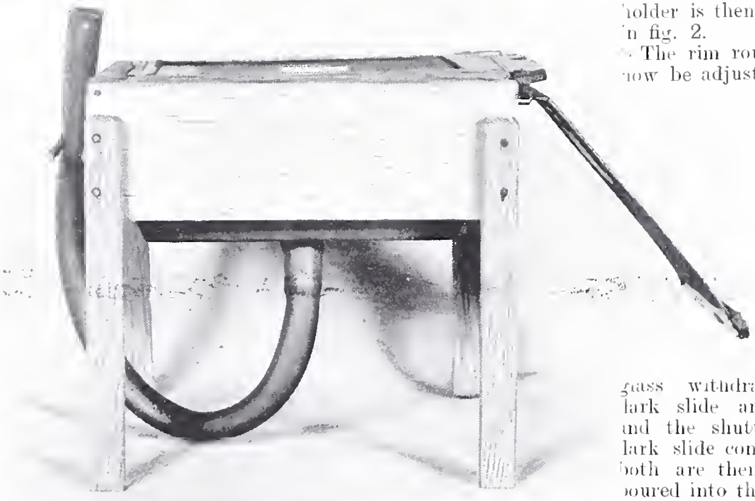


HOW TO MAKE

A Daylight Developing Machine.

By C. H. Barfield. Special to "Photography."

THE time method of development is now very general, and the number of those who still employ the antiquated method of judging density by inspection from the back of the plate or by gazing long and earnestly through the negative at the dark room lamp is rapidly diminishing. The practised worker has no need to remove the plate from the solution to judge when density is approaching completion. It is sufficient for him to know how long the high lights took to appear. This being so, it is possible to dispense with the dark room to a very large extent. A number of developing machines have been brought out, but most of them suffer from two disadvantages—they cannot be used for plates or cut films, and a single exposure cannot be dealt with separately.



The machine I am about to describe I have had in use for some time, and have found it very efficacious. It possesses the following advantages: The plates or cut films are developed separately, development can be watched, and the apparatus is cheaply made. It can be put together by anyone who is handy with tools, or will be made by the local joiner at a cost of one or two shillings over and above the cost of those parts which must be bought. Mine was made from my instructions by a picture-frame maker for one and sixpence, the total cost being three shillings.

A general view of the apparatus is given above. Briefly, it consists of a celluloid developing dish supported by a frame on legs and a special form of dark slide, which fits on top of the dish, and permits the plate to fall into it. A stained glass window on the top side of the dark slide allows the action of development to be watched. It is desirable that the developing tray should be of a light colour to show up the negative by contrast. By gently warming the bottom and pressing it downward a depression can be formed. In the centre of this a half-inch hole must be bored, in which the end of a length of indiarubber tubing can be fixed with marine glue.

The framework supporting the tray should be made of hard wood recessed to carry the edge of the tray, and provided with four short legs. If one of these is kept shorter than the other a touch of the finger will keep the developer in motion, which is desirable when pyro is used. A rim must also be built round three sides to receive the dark slide. The base of the plateholder is one of Horne's double dark slides, which cost one shilling each in the quarter-plate size. It should be laid on a table and the uppermost shutter drawn out, when a brass catch will be seen at one end and a slip of cardboard at the other; both are to be removed. The black paper which separates the two plates is next cut away, revealing the other shutter and the brass catch and cardboard slip adjacent to it.

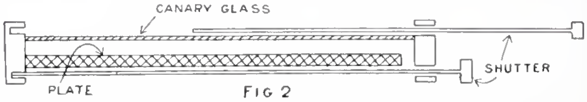


FIG 2

A piece of orange or ruby glass the size of the plates used is next taken and fitted with marine glue just over the lower shutter. If an old negative and a piece of thin card are laid on top and the top shutter is returned to its place, the orange glass will be held tightly in position till the glue has set hard, after which paper must be pasted round the edges to make the joint light tight. The plateholder is then finished, a sectional view of it being shown in fig. 2.

The rim round the frame of the developing trough must now be adjusted to allow the plateholder to slide over the dish. This is shown in fig. 3. A hook should also be screwed in to the framework to carry the free end of the rubber tube, as shown in the photograph. A changing bag must either be bought or made. It must be fairly large—say, 36in. by 24in.—and should have sleeves fitted with elastic to close round the arms.

To use the apparatus, the dark slide carrying the exposed plate is placed in the changing bag together with the plateholder, which has the shutter that is farther away from the stained glass withdrawn. The plate is taken from the dark slide and laid face down on the stained glass, and the shutter is closed on the top of it. If the dark slide contains another plate, it also must be closed; both are then taken out of the bag. The developer is poured into the tray, taking care that the tube is hooked up and the plateholder with the stained glass side uppermost is slid over the tray. When the lower shutter is withdrawn the plate will fall into the developer, and if the apparatus is rocked for a second or two it will be evenly flooded.

When the image is expected to appear, the top shutter may be opened, and the plate examined through the stained glass. When development is complete the tube is lowered and the developer run off. First water and then hypo may be poured in and drawn off in a similar manner.

The apparatus will be seen to be simple and easy both to make and to use. It will be found handy when away from home and from the dark room, and also in very cold and in very warm weather, when the temperature of the dark room becomes unbearable.

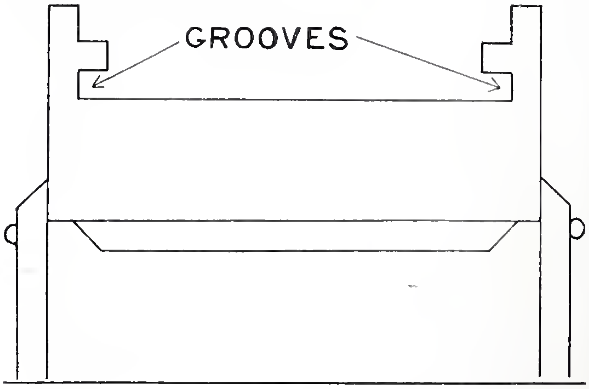


Fig. 3.

Is Silver Printing by Artificial Light Practical?

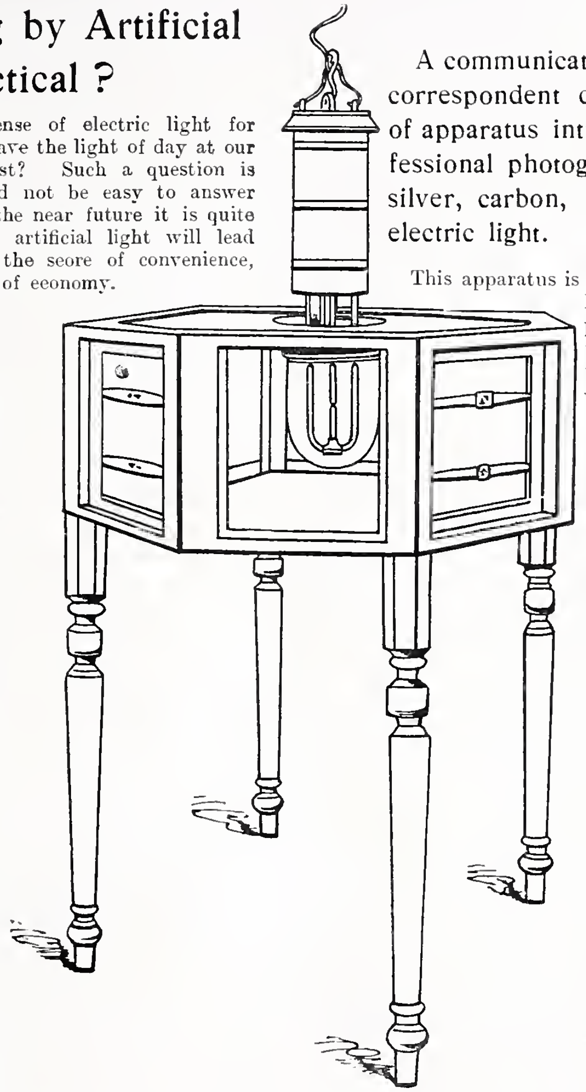
WHY go to the expense of electric light for printing when we have the light of day at our disposal free of cost? Such a question is one which it would not be easy to answer at the present moment, yet in the near future it is quite possible that the advantages of artificial light will lead to its adoption, not merely on the score of convenience, but actually also on the ground of economy.

Convenience such a system could certainly seem to possess. Who is there who has not experienced the irascibility of a client, who has sat for some particular purpose, only to find that when the special day arrives on which he wants his portraits, the photographer has not got them ready. "The bad light we have had lately," explains the unfortunate knight of the ruby lamp, but it does not suffice to bring back the sitter to a state of equanimity. With artificial light this would be removed, and a fixed date for the work could easily be kept to, or if not, it would not at any rate be the fault of the weather.

Uniformity of results would follow from such a system. In fact, silver prints should be made, as carbon prints now are, without opening the frames, except that the actinometer would be dispensed with. The first print might be watched, and the time it took duly noted, after which its successors could be made with absolute uniformity by the timing method alone. There would be another gain in this direction too, from the fact that the prints for one order could all be made on the same day, sunshine or no sunshine, and so they could be toned and fixed together.

To secure economy, the cost of the current and carbons, for of course it is the electric arc lamp that is being considered, would have to be less than the present cost for waste prints, delay, etc. The timing system should bring down the cost of a printer; in fact, little more than someone to fill and empty frames would be wanted even in a comparatively large business.

The cost of current in this country is at present too great to allow of much immediate prospect of its use for silver printing; although in London and foggy cities it is employed, as we know, with considerable satisfaction to its users. In the United States, a machine has just made its appearance which is designed for the regular use of the professional photographer for printing his work on the customary printing-out papers—albumen, collodio-chloride, gelatino-chloride, etc., as well as carbon and platinum. Some idea of its general appearance may be gained from our illustration, from which it will be seen that it is a skeleton octagonal frame, holding eight printing frames round one arc lamp.



A communication from our American correspondent describing a new form of apparatus introduced there for professional photographers for printing in silver, carbon, platinum, etc., by the electric light.

This apparatus is the "Keystone Photographic Printing Machine," and prints at one time eight negatives 14in. by 11in. each, or their equivalent. I quote what follows from an account that has just been published in *Wilson's Magazine* over here.

The machine itself occupies a floor space of three feet by three, and is constructed in a thoroughly substantial and workmanlike manner. The arc lamp is specially designed for the apparatus, and is of the enclosed type, rays from which are of a purplish hue, and are exceedingly actinic. The time required to make a print with this machine varies necessarily with different negatives and different kinds of printing paper, but it may be taken that about one-third to one-half the time required in bright June weather will usually be found to be sufficient.

The apparatus is provided with sheets of ground-glass, by means of which the light may be very much diffused when desired, as, for instance, when weak negatives are being printed.

There are also special advantages which the apparatus possesses, as, for example, in platinum printing, which with its aid can be carried on in a warm dry room, so that all risk of dampness is avoided.

The cost of maintenance is the most important item. Where electric light is used, the Editor of *Wilson's* states the cost of the current for the machine varies from sixpence to tenpence per hour, according to the city in which it is used. Inasmuch as from 3,000 to 5,000 prints can be obtained with it in the course of a week, it will be seen that the cost of the light per print is in the end comparatively trifling. He takes an altogether sanguine view of its possibilities, and says that for those especially who do large quantities of commercial photography, the machine would seem to offer very definite advantages without any accompanying drawbacks. He believes it will in time revolutionise printing-room manipulation.

While regarding this as rather an optimistic view of the machine, there seems to be no doubt that it will be welcome to many workers here, and if with our clear skies its use proves advantageous, it ought to be still more so in those of your cities which are not so favoured.

THE CENTRAL INSURANCE COMPANY, of 12 and 13, Nicholas Lane, E.C., calls attention to its Non-contentious fire policy, in which liberal conditions are offered to insurers. The clause referring to goods temporarily removed from the dwelling house may be interesting to photographers sending their pictures to exhibitions.

PRACTICAL INSTRUCTION IN PHOTOGRAPHY is given at the Marlborough Street Continuation School, Blackfriars. Mr. Fred W. Bannister, for many years one of lecturers at the Borough Polytechnic, has been appointed to take charge. The class meets on Monday evenings from 7.30 to 9.30, and the fee is one shilling for the year's course.

The Exhibition of the Hove Camera Club.

Specially Reviewed for "Photography."

THE twelfth annual exhibition of the Hove Camera Club was held in the Hove Town Hall last week, and the really fine collection of photographs brought together attracted a considerable number of visitors. The club is specially fortunate in two by no means unimportant factors in the successful running of an exhibition. for it has a fine, well-lighted, and very suitable suite of rooms in which to arrange the exhibits, and its buisness affairs are in the hands of a most energetic and capable gentleman who holds the position of honorary secretary. Only those who have had personal experience of the organising of a photographic exhibition can form any idea of the amount of work involved, or of the worry and excitement which appear to be inseparably connected with it.

In this instance, however, the labours of the executive have been well rewarded, for the 800 odd photographs made a most imposing show, and (which was of more importance from an educational point of view) were of high average merit, many of the better known exhibitors both at the Royal and Salon being represented.

The judges were Messrs. C. Job, A. Keighley, and E. E. Manwaring, and we think that upon the whole, and considering the difficulties of their task, no great exception can be taken to their decisions. But one could not help feeling in going round the exhibition that there were other pictures hung at least as worthy of distinction as those that had received the honour of awards. In saying this we are making no reflection on the judges, for it is the system of awarding medals which is at fault. There has been of late years such a "levelling up," as it were, in the quality, both pictorial and technical, of exhibited work, that the making of an award places those who are responsible in an unpleasant, if not in an actually invidious, position, the matter resolving itself in many cases into one of individual preference. We would suggest that the time has now arrived when this anomalous condition of things might be abolished, and that if a conference of the promoters of the more important local exhibitions in different centres were to be held, and the matter duly considered, some common form of action in the direction of abolishing awards and substituting the principle of selection might be mutually agreed upon.

The photographs were well hung on screens placed at such an angle that no inconvenience was occasioned to the visitor by reflected light—often a great annoyance at photographic exhibitions. In the small space at our disposal it is impossible to criticise individual work, but when we find such well-known names as Croall, Campion, Mrs. Alice Dumas, Eickemeyer, Read, and many others competing in the open classes, it is almost unnecessary to say that that section of the exhibition was an exceedingly interesting and representative one.

The members' classes were well supported, and contained some excellent work rather above the quality usually found in a local society's show. In the landscape class, W. White Palmer's Swiss views were noticeable both for their good technique and their evidencing a distinctly artistic perception on the part of their producer. Victor Morris's "Cliffs" was a good rendering of a somewhat difficult subject. Miss E. Shiffner in "A Summer Calm" gave a faithful realisation of the play of sunlight on the dancing waves. An Old Street," by C. C. Cook, was noteworthy. "Sunset," by W. A. Elfington, was a boldly executed subject, but suffered a little by the heaviness and absence of detail in the foreground shadows. The honorary secretary, A. R. Sargeant, received the silver plaque for a sea piece, "In Plymouth Sound," in which the long dappled reflections were rendered in a less fantastic and untruthful manner than is sometimes met with in photographs of similar scenes, but personally we prefer the companion picture bearing the same title, the composition of which shows more originality, and the sense of atmosphere is distinctly better rendered. In portraiture, Miss Shiffner's "Gleaners" and C. C. Cook's "Portrait Study" deserved attention, as do Douglas English's clever animal studies. But the exhibitor who stands out above all others in this class is Mrs. A. O. Jennings, "The Critic" being an exceedingly original and clever conception. The club appears to number amongst its members some good lantern slide workers, for it struck us after seeing the slides upon the screen that they compared very favourably with the average of those entered in the open class.

AWARDS.—OPEN CLASSES:

Gold plaque, Mrs. G. A. Barton. Class A.—Silver, Dr. O. Rosenheim; bronze, R. Eickemeyer and Miss A. B. Warburg; certificates, A. G. Peck, F. J. Mortimer, and D. Murray. Class B.—Silver, Mrs. G. A. Barton; bronze, Miss C. H. Ellis and A. Marshall; certificates, R. Eickemeyer and F. J. Mortimer. Class C.—Bronze, S. A. Pitcher and W. A. Clark. Class D.—Silver, Douglas English; certificates, A. D. Walburn and W. Handley. Class E.—Silver, R. B. Spanwick; bronze, H. J. Atkinson; certificate, R. Richardson.

MEMBERS' CLASSES:

Challenge salver, F. J. Phillips. Class J.—Silver, A. R. Sargeant; bronze, W. White Palmer; certificates, F. J. Mortimer and C. C. Cook. Class K.—Silver, F. J. Mortimer; bronze, F. R. Richardson; certificates, Mrs. A. O. Jennings and Douglas English. Class L.—Silver, F. J. Phillips; bronze, F. R. Richardson; certificates, Victor Morris and C. C. Cook. Class N.—Bronze, Miss Grimwood; certificate, C. S. Simpson. Lantern slides: Class F (open).—Silver, F. J. Mortimer; bronze, Ellis Kelsey; certificate, J. B. Johnson. Class G (open).—Bronze, F. J. Mortimer; certificates, B. H. Bentley and G A. Booth. Class H (open).—Silver, J. W. Hodges; bronze, F. J. Tryhorn; certificates, E. R. Bull and Dr. G. H. Rodman. Class M (club).—Silver, Victor Morris; bronze, C. S. Simpson; certificate, F. J. Mortimer.

Pictures from the Two Exhibitions.

The pictures which, by the courtesy of the exhibitors, we reproduce this week are:

55.—Study of a Head. By Miss Agnes Jennings, 10, Charles Street, St. James Square, London, W. (No. 115 R.P.S., Invitation Section, 7¾in. x 5½in.)

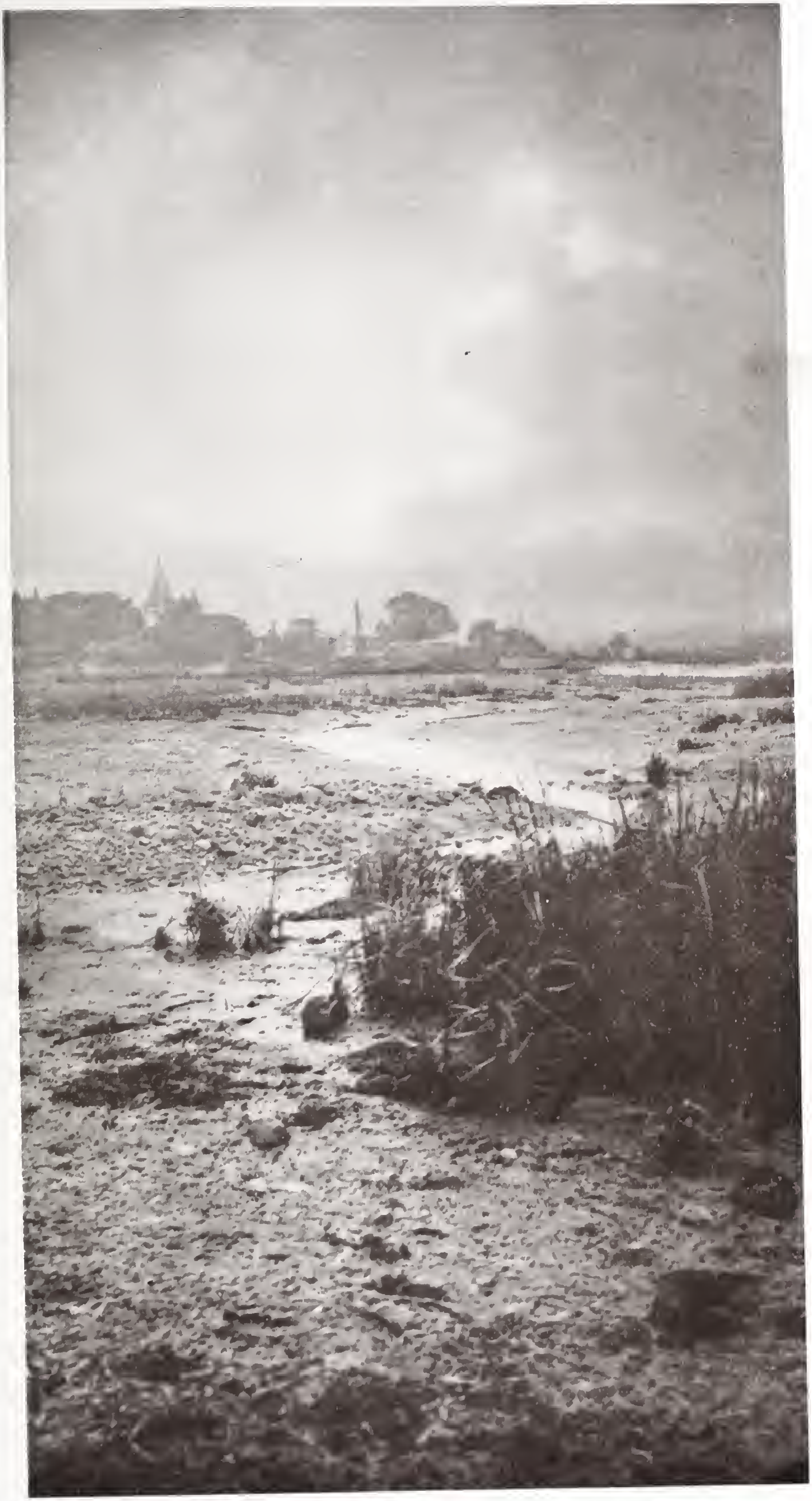
56.—Away to the Sea. By Bertram C. Wickison, 52, Lincoln's Inn Fields, London, W.C. (No. 113 R.P.S., 22½in. x 12in., £2 12s. 6d.)

57.—"He satisfieth the Longing Soul." By Mrs. Jeanne E. Bennett, 122, Windermere Avenue, Baltimore, Maryland, U.S.A. (No. 27 Salon, £1.)

58.—George Phoenix, Esq. By David Murray, 49, Queen Street, Wolverhampton. (No. 125 R.P.S.)

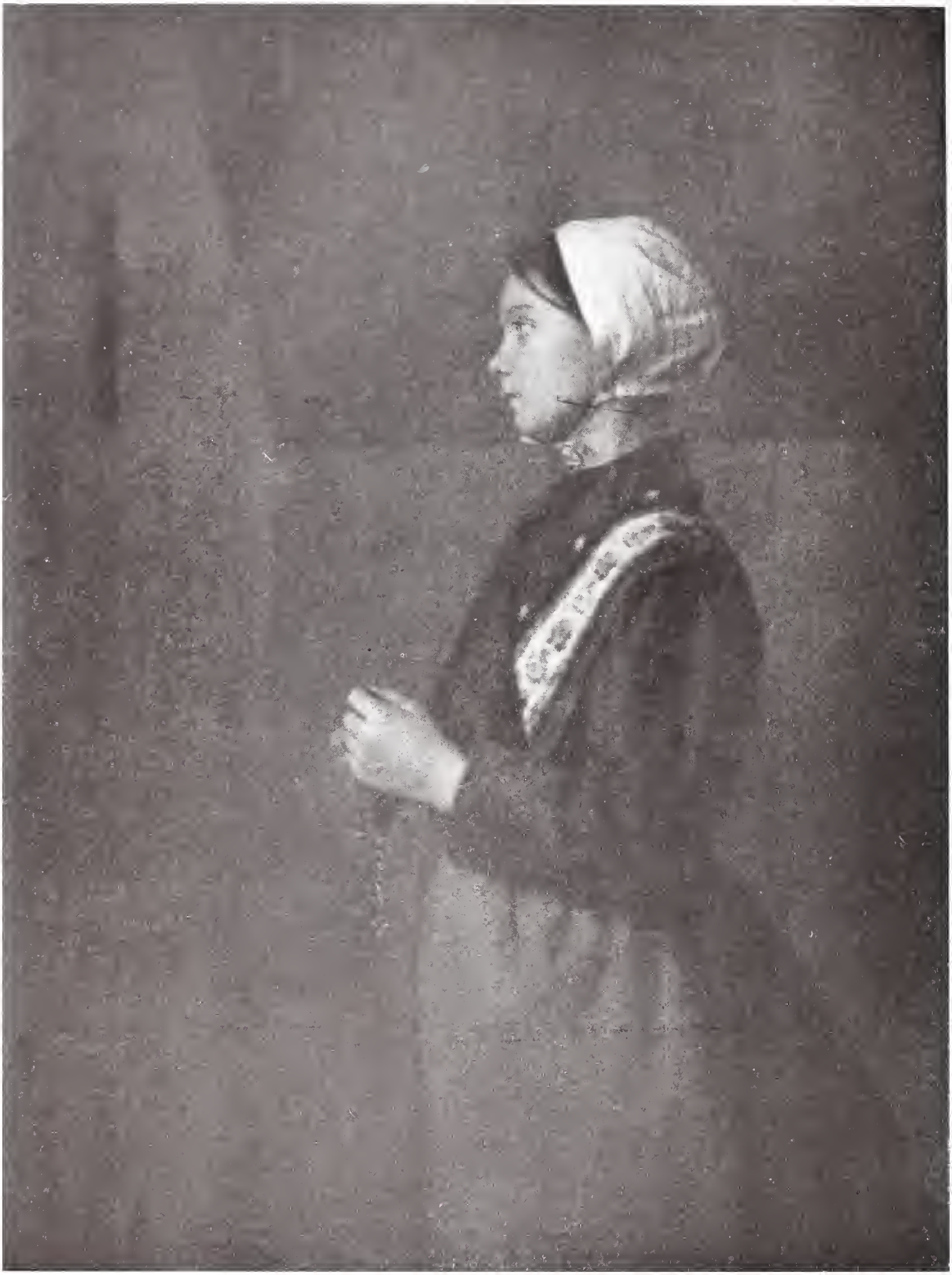
59.—A Symphony in Grey. By C. F. Inston, 25, South John Street, Liverpool. (No. 289 R.P.S., 21½in. x 15in., 50s.)

We have given the addresses of the exhibitors themselves this week, as the exhibitions are now closed. When a price is given it is for the picture framed, as exhibited, the sizes being the dimensions of the print excluding frame and mount.



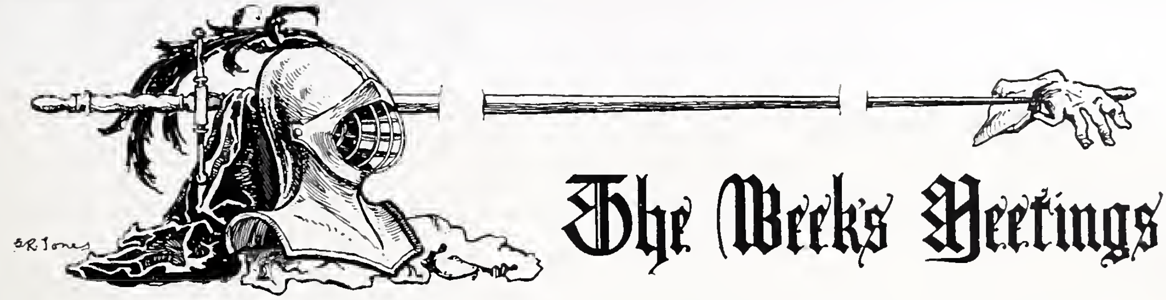
AWAY TO THE SEA. BY BERTRAM C. WICKISON.

("Picture, from the Two Exhibitions," No. 56, see page 501.)



"HE SATISFIETH THE LONGING SOUL." BY MRS. JEANNE E. BENNETT.

(*"Pictures from the Two Exhibitions," No. 57, see page 504.*)



The Week's Meetings

THURSDAY, December 17th.

Glasgow Eastern. Toning Methods. W. Goodwin.
N.W. London. A Trip to Coutances. A. J. Reid.
Hull, Burgundian Churches. J. V. Saunders.
Batley. Members' Lantern Slides.
Chelsea Lantern Lecture. A Trip to Arran. A. S. Long.
Ealing, Majorca.
Blackburn. Gaslight Papers. W. Duxbury.
Darwen. Pictorial Photography. A. W. Cooper.
Tynemouth Snapshots in a Shipyard. J. A. Mitchell.
Richmond. Paper by F. P. Cembrano.
South Norwood. Hand Camera Photography. Wallis Bros.
Liverpool A. Lantern Lecture Lieut.-Col. J. Pilkington.
L. & P. Photomicrography T. E. Freshwater.
Pudsey. Social Evening.
Bolton. Lantern Lecture. — Roberts.
Southport. A Talk on Art and Photography. C. H. Brown.
Watford C.C. Negative Making. Chapman Jones.
Handsworth. Trade Demonstration. W. J. Slater.

FRIDAY, December 18th.

East Liverpool. General Meeting.
Boro' Poly. Optical Lantern J. S. Coysh.
Watford P.U. Lecturettes by Members.
Simpson Memorial Schools. Platinotype. C. H. Brierley.
Walsall. Trade Demonstration. W F. Slater.
Weymouth. Carbon Printing. H. Cumming.
Plymouth. Members' Open Lantern Evening.
Bromley. The Manufacture of Photographic Lenses. H. L. Aldis.
West London. Majorca. G. E. Thompson.
Reading. Hand Camera Photography. E. F. Wallis.
Aberdeen. Toning and Mounting Prints. J. Milne.
Croydon Nat. Natural History Photographs. G. T. Harris.
Dundee and E. of S. P A. Barnet Lantern Slides.

SATURDAY, December 19th.

Southampton. Exhibition closes.

MONDAY, December 21st.

South London. Slide and Print Competition.
Bowes Park. Progress of Photography. R. Core Gardner.
Oxford. Members' Lantern Slide Competition.
Ilford. Stereo Work. — Gollege.

MONDAY, December 21st *(continued)*.

Halifax. *Photography* Prize Slides.
Bradford. Open.
Hastings. Gaslight Bromide Printing and Toning. T. Judge.
Catford. Competitions for Pictures and Slides
Walthamstow. Ordinary Meeting.
Widnes. Majorca. G. E. Thompson
Stafford. Christmas Postcard Competition.
Burton-on-Trent General Meeting.
Working Men's College. Intensification and Reduction. T. Brown.
Glasgow and West. The Castle to Holyrood." D. M'Arthy.

TUESDAY, December 22nd.

Goldsmiths' Institute. Open Night.
Thornton Heath. Lantern Night.
Hackney. Some Humours of Photography. H. W. Lane.
Chiswick. Our Trip to Belgium. Members.
Glasgow Southern. A Few Jottings. W. A. Frame.
Monklands. Stereoscopic Photography. W. B. Hossack.
Leeds P S. Lantern Evening.
Darlington. Exhibition of Federation Lantern Slides.
Jarrow. Plate Developing W. Reick.
Whitby. Developing Night. Competition.
Newcastle-on-Tyne. Subject to be announced.
Morley College. Lantern Slides and Transparencies.
R.P.S. Technical Meeting. T. Thorne Baker, F.C.S.
Manchester A. Postal Club Exhibition. T. L. Cooper.

WEDNESDAY, December 23rd:

Boro' Poly. Latest date for receiving prints and slides for exhibition.
Balham. Social Evening.
Hartlepools. Lantern Slide Making. H. Booton.
North Middlesex. Technical Meeting. Nomination of Officers.
Coventry. Open Night.

THURSDAY, December 24th.

Glasgow Eastern. Social Meeting and Presentation of Awards.
Rodley. Lantern Night.

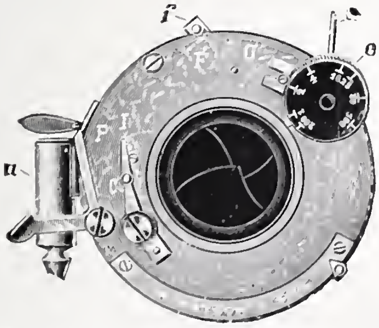
SATURDAY, December 26th.

Scarborough. Annual Exhibition opens.

Societies will have their meetings announced here if the syllabus is sent to us at the beginning of the Session, or from time to time.

Watson and Sons' New Diaphragm Everset Shutter.

Of the many forms of time and instantaneous shutters now in use, there is none, perhaps, that has attained a greater degree of popularity than the sector or iris type working near the diaphragm. When a shutter of this pattern can be relied upon to give with certainty exposures of the periods for which it is set, it is undoubtedly a most convenient instrument. Of this type is the diaphragm Everset shutter brought out by Messrs. Watson and Sons, of 313, High Holborn, W.C. In general form it is of the shape now familiar to all—an annulus surrounding the lens mount and bearing the various devices by which it is actuated.



It differs from other patterns in having the leaves of the shutter cut to a peculiar shape, with the result that no matter at what speed it is set, it opens very rapidly to the full aperture, and when the exposure is finished closes again as quickly. As will be recognised by those who have given thought to the matter, this makes for high efficiency. The smaller the time occupied in the opening and closing of the leaves the nearer to perfection is the shutter.

As will be seen from the illustration, the shutter is speeded from the two hundred and fiftieth of a second to one second—an unusually long range, yet one which throughout its whole course we found to be very fairly accurate at every point at which we made a test. The speeds are controlled not by a spring but by a brake.

For longer exposures the pointer is set to time, and the shutter is opened by pressure on the release, remaining open till the pressure is removed. For focussing purposes the shutter is set open by pushing the projection, marked *f* in the illustration, over from F to O. This device may also be made use of when the required exposure is so long that it would be irksome to maintain the pressure on the pneumatic bulb or other releasing apparatus. For the brief exposure marked on the dial, it is necessary to set the lever *d* to the point *e* on each occasion, but when set for time the shutter is of the everset variety.

The Antinous release, which we reviewed a little while back, may, of course, be employed with this shutter, but a word of caution may be given to those who themselves do the fitting. The central wire of the releasing device is left sufficiently long, as it is sent out, to act with any shutter. It should be reduced to the exact proportion required, or the leaves of the shutter may not close completely.

The shutters are made in three sizes—for an aperture of $\frac{7}{8}$in. £2 5s., $1\frac{3}{8}$in. £2 15s., and for $1\frac{5}{8}$in. £3. It is also made in duplicate for use with stereoscopic cameras. For all round excellence and general adaptability this new shutter of Messrs. Watson's is one of the best instruments we have ever used.

By R. R. Rawkins.

Special to "Photography."

Sulphur Toned Slides.

IT is generally acknowledged that a warm-toned lantern slide is in most instances superior to a black one, and in order to obtain a warm colour it is usual to make the exposure on a plate containing silver chloride, with which long exposure and restrained development produce a warm tone. But in practice it is extremely difficult with this process to produce absolute uniformity of tone in slides made from different negatives. More especially is this difficulty brought before the worker who attempts to combine a landscape on one slide with a cloud on a separate slide. Speaking generally, none of the usual methods of after toning to obtain warm colours possess a finality and certainty of tone; particularly is this the case with uranium and copper.

It will therefore be interesting to know that the process first given prominence in these columns—the iodine-sulphide method of Mr. R. E. Blake-Smith—is equally applicable to lantern slides. The tone produced is a rich brown of great beauty, perfectly even, and free from double tones. In the hand the slides appear a warm sepia, but when projected they are a trifle colder in tone.

The slides selected for the purpose of testing were made some months ago on Mawson's black-tone plates, and were developed to a black tone of the usual depth in a single solution metol-hydrokinone developer. It would perhaps be well to give full working details, and repeat the formula already published in these columns.

The solutions required for toning are:

(1.) Bleaching solution made up as follows:

Iodine	45 grains.
Potassium iodide	110 grains.
Water to	10 ounces.

(2.) Sodium sulphite five per cent. solution.

(3.) Sodium sulphide twelve per cent. solution.

The slides are immersed in the bleaching solution until the images change to a blue colour by reflected light. At this stage the half-tones and high lights appear yellow, but on viewing the slides by transmitted light it will be seen that the images have gained in density, and have assumed a dark brown colour, which, however, appears black when projected on the screen.

The slides are then transferred to the sulphite bath No. 2 until all blue colour has disappeared, and, finally, are immersed in the sulphide solution No. 3 made up as follows:

Sulphide stock twelve per cent. solution	1 ounce.
Water to	20 ounces.

The action is instantaneous, and the slides need not be kept in the solution longer than a minute. They are then thoroughly washed and dried in the usual manner. A solution of ammonium sulphide acts equally well. When quite dry it will be found that the film has a dead matt surface, rough to the touch, and that the image has considerably increased in density with just a suspicion of veil in the high lights. The matt surface can easily be removed by rubbing the film with a little Globe polish, which also has the effect of increasing the brilliancy. The slides should then be varnished with a celluloid varnish for preference in order to secure the maximum amount of transparency.

The fact that the final colour seems certain and uniform makes the process invaluable to lantern-slide workers, and especially to those who produce pictorial results. I venture to think that the process will go far to increase the popularity of the pictorial lantern slide, and perhaps we may at last hope for some encouragement from those workers upon paper who deride the lantern slide as a pictorial impossibility.

The Employment of Sulphites in Photography.

By Dr. Hauberisser.

PHOTOGRAPHERS are accustomed to add "preservatives" both to their developers and to their fixing baths in order to keep them clear and free from stain. Up to the present, these have been salts of sulphurous acid—sodium sulphite, sodium bisulphite, potassium metabisulphite, and acetone bisulphite. Sodium bisulphite is only used, as a rule, for fixing baths, but the others may be employed in developers as well. In a developer, these sulphites act not only as preservatives, but as restrainers, and in other ways, according to the nature and formula of the solution employed.

Opinions differ widely as regards their efficacy. Thus in a certain journal it was stated that a five per cent. neutral aqueous solution of sodium sulphite (which was kept in a bottle only half full) became useless almost immediately. Such a statement can be shown to be quite inaccurate—unless the bottle was so badly corked as practically not to be closed at all. For in a bottle half full of a five per cent. solution of the sulphite and half full of air, there is not in the air one-tenth of the oxygen required to oxidise all the sulphite. Of course, if the bottle were uncorked, the case would be different, and experiment has shown that in three weeks only one hundred and fifty-eighth part of the sulphurous acid was present.

This result led to an experiment as regards the other sulphites. Solutions of sodium bisulphite, acetone sulphite, and potassium metabisulphite were prepared, and left exposed to the air in open bottles. From time to time the proportion of sulphurous acid was estimated, and only on these occasions were the bottles shaken (so that very little air was introduced as bubbles), the shaking being given in order to make sure that all portions were equally oxidised. This was the result after three weeks:—

Sodium sulphite solution (five per cent.)	99.4	oxidised.
Potassium metabisulphite solution (five per cent.)	25.1	,,
Sodium bisulphite solution (five per cent.)	22.15	,,
Acetone sulphite solution (five per cent.)	10.9	,,

From this it will be seen that the acetone sulphite possessed the greatest keeping qualities, and it would, therefore, appear to be advantageous to substitute it for sodium sulphite in preparing developers which are required to keep well.

As far as their relative powers of preserving are concerned, ten grains of the acetone sulphite correspond to seven grains of potassium metabisulphite and sixty grains of sodium sulphite, while in the matter of solubility twenty ounces of water at ordinary temperatures dissolve five ounces of sodium sulphite, ten ounces of sodium bisulphite, eight of potassium metabisulphite, or fourteen of acetone sulphite.

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NOTICE TO CORRESPONDENTS.

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LEADER

Stops and their Designations.

One of the mistakes which the Royal Photographic Society has made in the course of its fifty years' existence—and in so long a career a few mistakes are inevitable—is to be found in the unfortunate method of numbering stops which it put forward in 1882.

The system was characterised from beginning to end by futility, and bore all over it the stamp of the theorist and doctrinaire, rather than of the practical working photographer, with whom it lay eventually to decide upon the adoption or rejection of the method then devised. Even its very title—the "U.S." method, as it is called—labours under the disadvantages that it suggests inevitably that the system is American in origin, most people assuming that "U.S." is an abbreviation of "United States."

As, however, there are still a great many lenses marked according to this method, a list that includes all the Kodaks, or, at any rate, all that are put upon the British market, there are many who very naturally wish to know something about it, and we are constantly assailed through the medium of our "Questions and Replies" with requests for information. A word or two, therefore, on the subject may not be altogether out of season.

The system itself is best explained by a few words upon its origin. At the time that it was instituted it was supposed that f/4 was the boundary in the direction of rapidity, beyond which the utmost optical skill and science were unable to pass. The committee of the then Photographic Society of Great Britain, which was appointed to devise some standard system for marking stops, determined

therefore to make f/4 the unit of its system. It further decided that taking f/4 as 1, the other stops should be denoted by numerals representing the relative exposures which they required. Thus, f/8 requiring four times the exposure necessary with f/4, f/8 was known as 4. In like manner f/16 requiring sixteen times was called 16, and f/32, which needs sixty-four times, was called 64

All very nice and orderly and methodical on paper, but in actual everyday use it is not so simple. Say we are using stop U.S. 18, and we change to U.S 5, unless the exposure with U.S. 18 is exactly eighteen seconds, it is not easy at a moment's notice to calculate out the exposure required with U.S. 5. We have selected these odd numbers rather than taking as our examples the U.S. equivalents for f/8, f/11, f/16, etc., because they are precisely the cases which are supposed to be dealt with so effectively by the U.S. system.

As a matter of fact, a very sensible custom has determined that all stops shall be constructed in such series that going from large to small openings each stop requires double the exposure of the one immediately before it. The intermediate sizes in practice are not wanted, and are not supplied. The consequence of this is that relative exposures are determined in the simplest and readiest manner by halving or doubling for each successive stop. This is the easiest of all mental processes in which numbers play a part, and so long as the stops are made in this ratio, the only need for marking them at all is to enable one lens to be compared with another.

The basis of this method of stop numbering is, not an arbitrary f/4, but the focus of the lens itself or f, and the convenience and ease of the method are responsible for its very general use.

Spirit of the Times

EICKEMEYER ON "WINTER." It is now some ten or twelve years since Mr. Eickemeyer's work first became known in this country, and during the years that have followed there have been few exhibitions of note in which his pictures have not found a place. It is with pleasure that we have received a collection of his pictures in book form representing one phase of his work. The book in question is published by R. H. Russell, of New York, and deals exclusively with those snow scenes in the portrayal of which the author first made his name in this country. Amongst the pictures included are several of his earlier works, which we remember to have admired a decade ago, and are glad to see again. Those who are acquainted with Mr. Eickemeyer's winter work are aware that it is characterised by the clever management of broad masses of foreground, which would be voted uninteresting by many photographers, but are redeemed from insipidity by the manner in which every gradation of tone in the white carpet is rendered. No less characteristic is the treatment of the snow laden trees and twigs which appeal so strongly to the author. In the absence of titles it is not possible to refer to individual prints, of which fifty odd are reproduced, but in the majority of cases, notwithstanding the difficult nature of the subject, they are well reproduced by the half-tone process, though in one or two instances the printer has done bare justice to the blocks.

* * *

THE AFTER-TREATMENT OF FAULTY NEGATIVES.

Considerable interest has been evinced for some time past by our readers as to the best method of improving negatives which, by reason of some error in the procedure adopted, arising from accident or from want of skill, were a little short of being perfect. In such cases we are frequently asked whether intensification or other processes to be applied to the negative should be adopted, or whether it would be better to make a positive from the negative and a new negative from that? The treatment, of course, must vary with the nature of the fault to be remedied. When the exposure has been correct, over or under density may be corrected by reduction or intensification, and the effects of over-exposure, if at all within reasonable limits, may also be corrected by intensification, preferably by the Monckhoven formula. It is, however, in cases where the contrasts are violent and the circumstances forbid lengthy exposures being given, that the greatest difficulties arise. The exposure may have been sufficient to give detail in the shadows, and yet not sufficient to permit full printing density to be attained before the highlights are over dense. These conditions often occur in such subjects as waterfalls and "fairy glens." If chemical treatment is to be adopted it must be of the nature of local intensification or local reduction, and in either case involves a certain amount of risk to the negative. Obviously the making of a new negative from a positive involves no risk to the original negative. There are, however, several opportunities for the unaccustomed worker to make mistakes in the operations. It should be understood that in every case the object should be to produce a perfect transparency before the making of the negative is proceeded with, and that it should differ from a good lantern slide in being a trifle darker; even the highest lights should show a distinct deposit. Long exposures tend to soften the contrasts, and short exposures to accentuate them. The most common error is to give such extremely long exposures that the transparency is thin and flat.

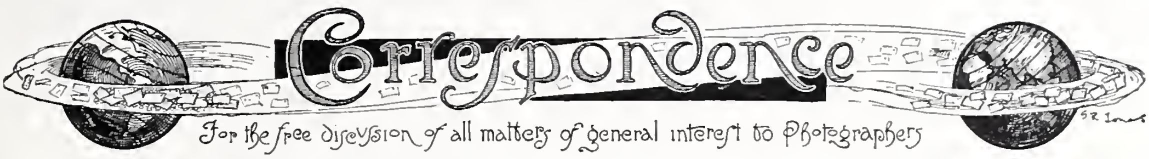
* * *

PICRATES FOR DAYLIGHT DEVELOPMENT.

For some time past efforts have been made, with more or less success, to develop plates and papers by white light. The methods employed have been either to stain the film before development, or to add a dye of suitable colour to the developing solution. Staining with Coxin is an example of the first method, while the addition of colouring matter to the developer is the simpler and older process. Simple as the method is, it has never become popular, chiefly because of the difficulty in obtaining a colouring matter which will not stain the film nor the fingers of the operator, nor fog the plate, nor injuriously affect the latent image. It should be miscible with any developer without being precipitated by it. Messrs. Lumière and Seyewetz have been searching for such a substance, but have not found one that meets all the requirements. They also searched for a colourless substance that would make the silver bromide insensitive to light, but without success. Of the various colouring matters which they tried they found that the picrates were the most satisfactory, giving coloured but not staining solutions, which absorbed the light that might have affected the plates. Only those picrates that were soluble the salts of sodium, ammonium, and magnesium—called for examination. The second of these cannot be employed, as it produces dichroic fog. Pure sodium picrate gave in their hands as good results as magnesium picrate, but they preferred the latter, as neutral sodium picrate is difficult to obtain. To facilitate the mixing of the developer they combined the picrate with sodium sulphite, and found the best proportions for use with most developers to be one hundred parts of anhydrous sodium sulphite and fifty parts of magnesium picrate.

FORTHCOMING EXHIBITIONS

SOCIETY.	OPENS.	ENTRIES CLOSE.	SECRETARY.
Wishaw and District	December 30	December 14	T. Peat, 75, Hill Street, Wishaw.
Liverpool A.P.S. (Slides)	—	January 30	E. Simnett, Percy Buildings, Eberle Street, Liverpool.
Sefton Park P.S.	January 5	—	H. E. Cubley, 3, Langdale Road, Liverpool.
Holmfirth P.S.	January 8	December 28	George Holdsworth, Dean Bridge, near Holmfirth.
Corn Exchange A.P.S.	January 13	December 31	J. H. Mitchener, 1, Seething Lane, E.C.
Burnley C.C.	January 21	—	B Slater, Wood Nook, Burnley.
Affiliation Prints	—	January 23	The Secretary of each Affiliated Society.
North West London P.S.	February 11	January 28	J. S. Fairfoull, 13, Addison Road, Walthamstow.
Scottish National	February 13	—	John B. Maclachlan, *Dundee Courier*, Blairgowrie.
Southend	February 19	February 10	A. J. Langridge, Aniwa, Westcliff-on-Sea.
Affiliation Lantern Slides	—	February 13	The Secretary of each Affiliated Society.
Birmingham P.S.	February 27	February 22	L. Lloyd, Hollies, Church Road, Moseley, Birmingham.
Cripplegate P.S.	February 29	February 12	G. H. Depledge, 17, Hazeldene Road, Goodmayes, Chadwell, Essex.
South London P.S.	March 5	February 20	W. C. Marshall, 41, Glendon Road, Lee, S.E.
Brechin P.A.	March 5	February 13	J. Kirk, 1, Infirmary Street, Brechin.
Nottingham C.C.	March 9	—	Arthur Black, 9, Bowers Avenue, Nottingham.
Brentford P.S.	March 15	March 3	F. H. Read, Clifden Road, Brentford.
Northern	March 25	March 11	C. F. Inston, 25, South John Street, Liverpool.
Cape Town P.S.	April 4	March 13	A. J. Fuller, P.O. Box 750, Cape Town.
Croydon C.C.	April 6	—	H. M. Bennett, Alipore Duppas Hill, Croydon.



Correspondence

For the free discussion of all matters of general interest to Photographers

The Editor is not responsible for the opinions of his correspondents.

TONING BROMIDE PRINTS.

Sir,—When so much is being said about toning bromides by the sulphur method, it might be of interest to give my own experience in the matter.

I started by bleaching the prints with an acid solution of bichromate. It was not satisfactory, as I thought. I then tried the iodine method. I got some splendid results, but in my hands it was messy, and frequently gave a lot of trouble. At times the iodine soon lost its working power; at other times it would remain good for a long period. However, I did not like the method. I then saw Mr. Blake Smith's method of bleaching the prints with bleaching powder; but, oh, dear! it would not work at all in my hands.

When I saw Mr. C. Winthrope Somerville's method I thought I had got the ideal method at last—a single solution, and no trouble messing with three or four solutions. But the results were disappointing—weak, sickly-looking prints of a bad colour.

I am now working the bichromate solution for bleaching and the sodium sulphide for darkening, with good results. My only difficulty is blisters (with one or two brands of paper only, the rest of makes working splendidly).

I must say, however, that while the toned Kodak Royal paper gave a rich sepia, the other Kodak bromide paper did not. Even the new Kodak Royal white will not give the sepia colour, for which I was sorry, as it gives a fine result in enlarging.

I think it might be very beneficial if other readers gave their experiences of the method. Yours, etc.,

THISTLE.

PHOTOGRAPHING INTERIORS.

Sir,—In your reply to an enquirer in your last issue you give practically the old formula, "backed plates," etc. Now, if those who are anxious to obtain good interiors without halation would only try Cristoid films, either the ordinary with a speed of Watkins 300, or the isochromatic with a speed of 200, they would get most excellent results. A cardboard support can be obtained from Messrs. Sandell, or, better still, an aluminium film carrier from the Thornton-Pickard Co. There is no necessity to trouble about backed plates, slow plates, and long exposures, but I would advise the use of a Watkins meter to test the light, making the calculation with the quarter tint. I have a 5 by 4 Goerz-Anschutz Series III. lens, and generally stop down for interiors to f/22.

The first four interiors which I took on Cristoid ordinary films, testing the light with a Watkins meter, came out absolutely perfect. The exposures were as follows:

No. 1.—Dull and overcast; 12 noon; f/22; exposure, 1m.
No. 2.—Very dull; 2 p.m.; f/22; exposure, 2m.
No. 3.—Fair light; 3.45 p.m.; f/22; exposure, 2m.
No. 4.—Sun, but with the blinds down; 10.30 a.m.; f/22; exposure, 3m.

A church interior on Cristoid isochromatic films and light yellow screen had 7m. at f/22.

All the films were developed with Cristoid developer one part to seven parts of water. The films should be developed till they are well fogged over. If there is any over-exposure the picture will come right through the film very rapidly. If ordinary Cristoid films and a light colour screen are used the exposure will be necessarily longer, and may probably be 15m. Yours, etc.,

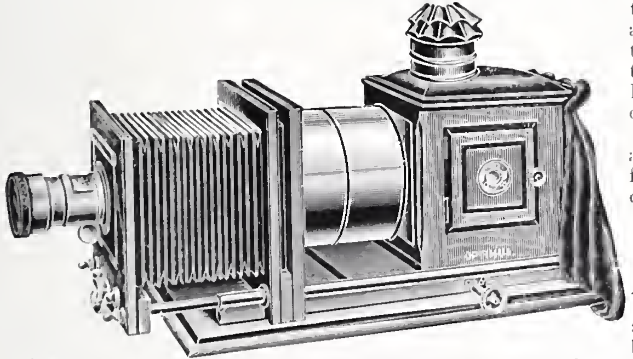
36,970.

[Our correspondent's letter was accompanied by a series of most excellent photographs of interiors quite without any trace of halation.—Ed.]

Two New Optimus Conveniences for Enlarging.

THE OPTIMUS PERFECT ENLARGER.

The Optimus enlarging lantern figured in the illustration merits very fully the title that Messrs. Perkin, Son, and Co., Ltd., of 99, Hatton Garden, have bestowed upon it. Long experience in such matters has enabled that firm to anticipate every requirement of the user, and to guard against all possible defects. The instrument has been designed as the most perfect enlarging apparatus made by them, and the construction and finish are worthy of the design. It is made in various sizes to carry condensers from 5½in. to 16in. in diameter, and practically any type of illuminant may be employed. As sent out in the ordinary way, either an oil lamp or incandescent gas or acetylene burners are supplied. For those, however, who have the electric current laid on, the Nernst lamp is recommended.



Every care has been taken by means of ventilation and cork separators to prevent the heat passing from the iron lining to the mahogany body, and the forethought shown in these details has been exercised in every part of the design. Where the instrument is fitted with 8in. condensers, there is an extension of 26in. from the front face of the condenser and the lens panel, and means are provided for regulating the distance of the light from the condenser within very wide limits. The ordinary to and fro adjustment of the tray carrying the light is supplemented by a rack and pinion controlled movement of the lantern body, the jacket of the condenser being telescoped to enable this to be done. The wide range of adjustment enables lantern slides to be made by reduction.

The rods carrying the front of the apparatus have extremely long bearings, and confer great rigidity, while a fine focussing attachment is helpful to the operator. As the stage in which the negative is inserted is open at the top, it is possible to enlarge from portions of negatives larger than the apparatus will accommodate in the ordinary way.

Rigidity, soundness of construction, and beauty of finish are the distinguishing features of this lantern. The price for one with 5½in. condenser, including the lamp but without the lens, is £7 10s.

OPTIMUS ENLARGING EASELS.

An easel on which to pin the sensitive paper when enlargements are being made is a piece of apparatus which receives less attention as a rule than the subject demands. When every care has been taken to level the lantern and adjust the distance between it and the paper, all the labour expended may be wasted if the wall upon which the latter is so commonly attached is not truly vertical. Even if that should be the case, there is no means of varying the angle to correct converging lines in the negative—an error that cannot always be guarded against in hand camera work.

A very useful piece of apparatus is the enlarging easel manufactured by Messrs. Perkin, Son, and Co., Ltd., of 99, Hatton Garden.

It is modelled on the swing mirror, either the top or the bottom may be swung forward, and it may be raised

OPTIMUS ENLARGING APPARATUS.

or lowered several inches. A rack and pinion on the baseboard enables fine focus to be obtained with great ease. All that is necessary is to arrange the distances approximately, when the final adjustment may be made while the image is under close examination. The board is covered with a pure white material convenient for focussing upon, and when the correct angle has been obtained the board is secured by a fastening.

The boards are made in sizes ranging from 15in. by 15in. to 36in. by 36in., the price of the smallest being £1 10s.

Exporting Photographic Materials to Russia.

WRITING on this subject, the *Photographische Industrie* says that Russian dealers as a rule know nothing about the firms from whom they receive their goods, but do the whole of their business through the agent. In many instances the agents do not even tell their customers whom they represent; they deliver the goods and collect payment. It is also said to be most advisable, in addition to the general agent, to employ travellers to push the business and to act as a check upon the former. The expenses incurred in this direction will be well repaid by the additional business done.

It is important that samples should be shown at the proper time of year—in January and February for the summer season and in August and September for the winter. In April, June, and immediately before and after the Russian holidays practically no business is done.

Prices for goods should be quoted in Russian currency, with carriage and the duty paid. The customs declaration forms should be made out exactly and fully, and it is of the greatest importance that the name and address of the firm to whom the goods are consigned should be absolutely correct both on the packages and in the consignment note, otherwise delays are sure to occur. The system of C.O.D. should be avoided.

The cost of packing and similar charges should be included in the price quoted, as Russian dealers as a rule decline to pay additional expenses. Six months is the usual credit allowed, but small amounts are generally paid in cash thirty days after receipt of the goods. If accounts are not paid regularly enquiries should be made first of the agent, and if he has not received payment a letter should be written to the customer and in Russian, if he is a Russian, as letters in a foreign language are frequently not attended to from the inability of the receiver to read them.

Wee Tim'rous Beasties—A Christmas Present for Children.

NOT content with the strictly photographic side of his zoological work, Mr. Douglas English, as many of our readers no doubt know, has been acting as historian of the lives, the joys, and the sorrows of his little friends in a series of very delightful essays, which have appeared in various monthly magazines. These have now been collected and cast into book form, together with others not previously printed, and the whole, under the title given at the head of this note, are published by Messrs. S. H. Bousfield and Co., Ltd., at 5s. nett.

Since the time of Æsop, and probably before, talking animals have been favourites in the nursery, and not less so with those who have long been emancipated from it. Brer Rabbit and his colleagues have achieved a reputation far beyond the land of their birth. In these fables, men with their humours, cunning, and follies masquerade as animals.

Mr. Douglas English, with a knowledge born of long acquaintance and keen sympathy with these animals, tells us, on the other hand, of the comedies and tragedies of their little lives; from what we may imagine to be the animal's own point of view. They all talk in character, and we have the pertly audacious sparrow, the mischievous squirrel, and the murderous stoat and weasel uttering appropriate sentiments and doing deeds in keeping with their reputation.

Children will read the book for the sake of the stories, and gather natural history as they read; while many of their elders will enjoy the deft and convincing touches by which the various characters are set forth. Those who are acquainted with Mr. English's photographic work need not be told that the reproduced photographs with which the tales are illustrated are invariably from the living animal and not from stuffed specimens. Of these photographs, some have appeared in our columns and at the exhibitions, others are new to us, and in all instances we know not whether to admire most the skill that secured the characteristic pictures, or the talent that wove the tales around them.

Those who want to give a book as a Christmas present for a child could hardly do better than invest in "Wee Tim'rous Beasties." and if they read it through first, they will not regret it.

THE DEATHS ARE REPORTED FROM AMERICA of Mr. William G. Entrekin, of Philadelphia, the designer of the well-known burnisher which bore his name, and Mr. Robert Benecke, for many years manager of the Cramer plate factory at St. Louis.

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A PAPER on the manufacture of photographic lenses by Messrs. Taylor, Taylor, and Hobson, was read at the Liverpool Photographic Association on the 10th inst. Some surprise was expressed by the members that the method of varying the focal length of the Cooke lens recently made public in *Photography* had not been referred to in the paper.

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AT THE SOUTHAMPTON CAMERA CLUB'S EXHIBITION, opened on the 11th inst., the judges, the Rev. F. C. Lambert and Mr. J. C. S. Mummery, made the following awards: Gold plaque for the best picture in the exhibition, F. J. Mortimer; special award for the best average of exhibits in the Southsea, Hove, and Southampton exhibitions, Mrs. G. A. Barton. Members' classes: Class J—Silver, Geo. Vialls; bronze, C. D. Kay; honourable mention, C. D. Kay. Class K—Bronze, C. C. Cook; honourable mention, R. E. Jurd. Class L—Silver, C. C. Cook; bronze, A. E. Henley; honourable mention, C. C. Cook and S. G. Kimber. Class M—Silver, A. E. Henley; bronze, S. G. Kimber; certificate, C. C. Cook; honourable mention, S. G. Kimber; special silver medal for the best picture in the members' classes, Geo. Viall; gold plaque for the best average of work, C. C. Cook. Open classes: Class A—silver, F. J. Mortimer; bronze, J. Shaw; certificates, Dr. C. F. Grindrod, D. M. Filshill, and R. Eickemeyer, jun. Class B—Silver, Mrs. G. A. Barton and Dr. C. F. Grindrod; bronze, Miss Constance H. Ellis; certificates, Arthur Marshall and R. Eickemeyer, jun. Class C—Silver, W. A. Clark; bronze, P. W. Crave; certificates, Rev. H. R. Campion and F. J. Phillips. Class D—Silver, R. Eickemeyer, jun.; bronze, L. Kough; certificate, W. Handley Class E—Silver, J. A. Angus; bronze, Miss C. E. Power; certificate, G. H. Faux; honourable mention, H. J. Atkinson. Lantern slides—Silver, J. Walker; bronze, F. J. Mortimer; certificate, C. J. King. Class G—Silver, H. Wild; bronze, H. B. Bentley; certificate, G. A. Booth; honourable mention, F. G. Tryhorn. Class H—Siver, E. R. Bull; bronze, F. Parkinson; certificate, J. Ludlam; honourable mention, J. Ludlam. Class N (members)—Silver, W. J. Goatcher; bronze, F. de Foubert; certificate, A. S. Hickley; honourable mention, C. C. Cook.

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A MOST CONVENIENT FORM of pocket atlas of the British Isles is one just published, price 1s. net, by George Newnes. Ltd. It is a complete atlas of the United Kingdom in miniature, measures only 6in. by 4in., and is just what the cyclist, photographer, or motorist has long wanted. The maps are reduced from the Ordnance Survey.

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NEGATIVES WHICH HAVE been intensified with mercury frequently fade or change colour. The treatment recommended by *Die Zeit* is to soak them in distilled water to soften the film, and then to reduce the density by immersion in a two per cent. solution of potassium cyanide. After washing they are ready for intensification.

Arresting Development on a Sensitive Surface and Resensitising.

By Sir W. de W. Abney. Special to "Photography."

THE writer has had occasion to have lantern slides made from some wet plate negatives taken in Egypt nearly thirty years ago. In the days when these negatives were taken, it was no uncommon thing for the skies to be painted out with lampblack—and it required a firm hand and a fine brush to do this inartistic operation—and to insert clouds from other negatives in the prints. Those who practised the wet plate will remember the difficulties that existed in getting a thoroughly even density in a sky in which there were no clouds, more especially in a hot climate such as Egypt in October.

In slide making it was found on the screen that there was much to be desired in the way of toning down the sky, and Mr. Bradfield, who made the slides for the writer, adopted the plan of exposing the gelatine plate for the necessary time in the camera, and developing it to its proper density. Instead of fixing it, he washed it very thoroughly under the tap, and, having shaded the landscape, put in clouds by "contact printing," though there was not absolute contact between the wet film and the positive. He then redeveloped, and got traces of clouds sufficient, indeed, to tone down the excessive white of the skies.

If this answered with a lantern plate, it ought to have answered with an enlargement on bromide paper; but if the same procedure were followed, the sole effect was that the clouds were absent on redevelopment, and the density of the landscape was increased. Arguing the matter out, it appeared that the paper was the sole difference in the two cases. The paper apparently held traces of the developer, even after considerable washing, and the development had not been arrested.

There is some doubt whether in the case of the lantern plate the density of the image had not been increased by the subsequent redevelopment, but that need not be considered for the moment.

An endeavour was made to obtain a developed image on a sensitive surface which would not take further development, unless additional exposure had been given it.

It is a good many years ago since the writer published in the *Philosophical Magazine* an account of a series of researches on "The Destruction of the Photographic Image" by chemical means; but these old experiments came to his aid. Amongst other chemical agencies, he found that nitric or hydrochloric acid would completely remove the traces of previous exposure, and that when well washed the sensitive film could be re-exposed and the second image be developed without any trace of the first appearing.

As long as there is development going on, there is without doubt some trace of the photographic image latent image it is sometimes improperly called remaining; and hydrochloric acid, if applied, would be able to destroy such remnants of an image, and also destroy the attraction of the freshly deposited silver, which goes to form new developable sub-bromide. Hydrochloric acid diluted to a strength of 1 in 80 was prepared, and when an exposure for an enlargement on bromide paper had been made, the image was developed with ortol to proper density, washed, and then flooded with the hydrochloric acid solution, and well washed. An exposure of the sky to a cloud negative was then made, and the developer was again applied.

The first developed image gained nothing in intensity, but only a very faint trace of the second exposure became visible. It is probable that the paper still retained some faint trace of the acid, and that almost as fast as the image was formed it was destroyed.

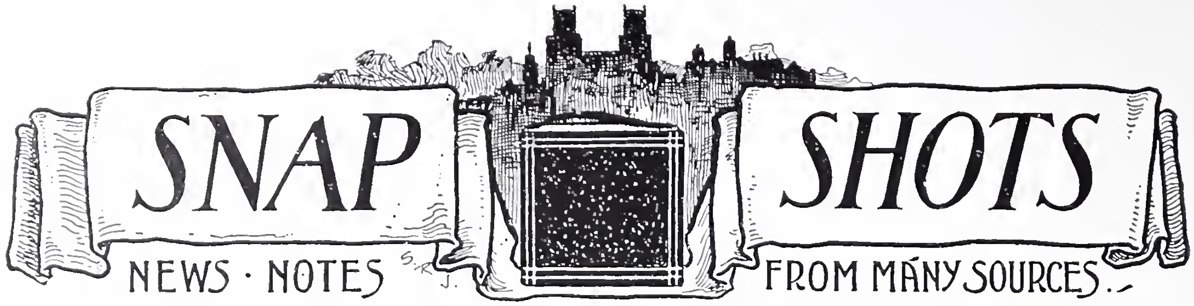
Indeed, this is not hard to prove. It is only necessary to tear such exposed paper in half, and to develop one half immediately and the other after a lapse of a few minutes. The one may show traces of the second exposure, and the other will not, since the acid has time to act. It became evident that before the second exposure was made, the acid ought to be neutralised by some salt which had no effect, or but very slight effect on the developer. Such a substance is found in the *bi*carbonate of soda.

After the acid had been applied, the paper was washed in a couple of changes of water, and a weak solution of bicarbonate of soda applied. After two or three washings with water, the paper was exposed to the cloud image. This time when the developer was applied, the clouds appeared properly, and no increased density of the first image was obtained. In other words, the surface on which one image had been developed was ready to receive another. The use of this procedure is pretty obvious, as it enables the operator to shade the developed image whilst the second exposure is being given, more especially when the enlarging camera is in the dark room. It may be useful in other ways than in merely printing in clouds. The print, of course, was fixed in the usual way, and washed.

It is as well to wash fairly well after the first developer has been poured off from the print, and before the hydrochloric acid is applied, as, if not, the traces of developer left on the paper show themselves by the evolution of sulphurous acid from the sulphite, which pernaps might to some extent attack the image.

It may be stated that the second exposure has to be some four or five times longer than that required for the first exposure, the sensitiveness of the bromide having naturally decreased. This is not peculiar to bromide on paper, but is found to be the case with those plates which the writer has tried. For some subjects, of course, a slow plate is an advantage, and this might be the means to be adopted where only rapid plates are at hand. It must be mentioned, however, that treatment with mineral acid *may* cause frilling. This can be avoided by using it very dilute, washing well, and neutralising, as explained.

The use of nitric acid is forbidden by the fact that it attacks the silver image. It is believed that hydrochloric acid is the safest acid to use, though oxidising agents are effective for the purpose.



SNAP SHOTS

NEWS · NOTES FROM MANY SOURCES.

The Chas. Urban Trading Co., Ltd., of 43, Rupert Street, W., send a copy of their catalogue, price one shilling, in which full particulars of their films and lantern apparatus are given.

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The exhibition of the Cripplegate Photographic Society will be held from February 29th to March 3rd. The judges are Messrs. J. T. Ashby, H. W. Bennett, F.R.P.S., and F. Hollyer. Entry forms are now ready, and can be obtained with full particulars of the six open classes from the honorary secretary, Mr. George H. Depledge, 17, Hazeldene Road, Goodmayes, Chadwell, Essex.

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"The Optical Magic Lantern Journal and Photographic Enlarger" has been purchased from the Magic Lantern Journal Co. by Mr. Theodore Brown, and at an early date will be issued in a new form under the title of *The Optical Lantern and Cinematograph Journal*. All communication for the present should be addressed to the Manager, O.M.L.J., 34a, Castle Street, Salisbury.

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"The American Annual of Photography," published by the Anthony Scovill Co., may be obtained from our publishers at two shillings; post free two shillings and fourpence. There are, as usual, numerous articles dealing with photographic subjects, both from the practical and from the theoretical sides. Many of these are illustrated, and the full page plates are at least as numerous and well printed as heretofore. The formulæ, tables of weights, measures, etc., and the pages for memoranda with which they are interleaved, add to the value of the book.

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A Free Gift.—The Velox exposure gauge is an ingenious little contrivance brought out by Messrs. Griffin and Sons, of 20-26, Sardinia Street, Lincoln's Inn Fields, and offered free through all dealers while the supply lasts. It consists of a cardboard frame with the opening covered with tissue paper in strips of varying thicknesses, and each strip bears a number. In use the gauge is placed in front of the negative with the sensitive paper in position behind in the ordinary way. An exposure much longer than is supposed to be correct is given. On development one of the strips will be correct in effect, and the exposure that was given when divided by the number on the strip will be the correct exposure for the negative. For example, if an exposure of one hundred and twenty seconds was given and the number on the selected strip was three, then the correct exposure for the negative would be forty seconds.

× × × ×

Glazed prints frequently refuse to strip from the plate on which they have been squeegeed unless special precautions have been taken. *Western Camera Notes* suggests that the ferrotype plates should be washed thoroughly with soap and water, then in running water, and dried with a soft cloth. A solution made by dissolving an ounce of paraffin wax in a pint of benzine is rubbed over the plate, and the surplus removed with a clean cloth till so little is left that the finger just leaves a mark upon it. The prints as taken from the last washing water are laid face down on the plate, and are gently squeegeed into contact. When dry the prints will probably spring off without assistance, but if not may be stripped by lifting one corner. On no account should they be rolled backwards in doing so, or the brittle surface may crack. Once the plates have been well waxed, if kept clean and free from dust, they will serve for three or four batches of prints. Our own experience is that if the prints are dried after fixing and washing and are soaked in water for a few minutes only before squeegeeing the waxing process is quite unnecessary.

Lanternists should make a point of getting a copy of the illustrated catalogue of lanterns and accessories issued by R. R. Beard, of 10, Trafalgar Road, Peckham, S.E.

× × × ×

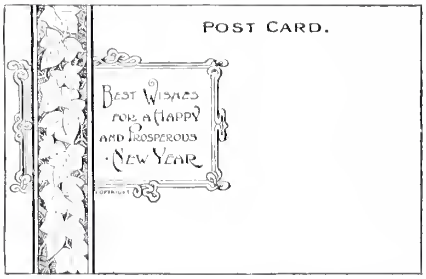
A catalogue of goods suitable for Christmas presents is issued by Messrs. Benetfink and Co., of 89 to 108, Cheapside, London, E.C. The list contains prices, descriptions, and illustrations of cameras and other photographic and optical apparatus, in addition to the other goods for which Messrs. Benetfink are noted.

× × × ×

"Lies told by the Camera" was the title of a lantern lecture by Mr. J. Kirk at the Dundee and East of Scotland Photographic Association on the 3rd inst. Apparent falsities were produced by the use of lenses of very short foci, while the light effects and colour values were falsified by the use of unbacked plates and those that were not sensitive to colour. He advised that the centre portions only of negatives taken with lenses of short foci should be enlarged, and that backed orthochromatic plates and colour screens should be used. On the 4th inst. Mr. H. Wallis lectured on the use of the "Penna" focal plane hand camera.

× × × ×

Leto gaslight, Leto-special, and Seltona postcards bearing new year greetings are now offered to the public by Messrs. A. and M. Zimmermann, of 3, Lloyd's Avenue, E.C. We have so recently called attention to the merits of these cards in their more ordinary form that it is unnecessary to do more than chronicle the advent of this new issue. All are perfectly simple to work, and full instructions are issued with each packet.


POST CARD.
Best Wishes for a Happy and Prosperous New Year

× × × ×

The annual meeting of the Capetown Photographic Society was held on the 5th ult., and a very satisfactory state of affairs was disclosed in the report. The society has doubled its membership during the past year. A successful competition of pictures was held in March last, the prints being sent to England to be judged by Mr. Hubert J. Elliott and Mr. Ernest Clarence Elliott. The Committee of the Copyright Section, with the assistance of Mr. J. D. Cartwright, M.L.A., had drafted and placed before the House of Assembly a Copyright Act, which was read twice when the abrupt termination of the Parliamentary session caused it to be abandoned. It is to be brought forward again in the coming session. The following officers were elected: Patron, His Excellency the Governor, Sir Walter Hely-Hutchinson, G.C.M.G.; president, Sir David Gill, K.C.B., F.R.S. (Astronomer Royal); vice-presidents, Mr. J. D. Cartwright, M.L.A., Rev. William Forbes, and Professor W. S. Logeman; council, Major T. W. Cairncross, Mr. G. Campbell-Dickson, Mr. Geo. B. Kipps, Mr. F. M. H. Matson, Mr. E. H. Oakly, Mr. H. W. Schonegeval, Mr. E. J. Steer, and Mr. J. A. Yallop; honorary lanternist, Mr. G. Ainslie; honorary treasurer, Mr. E. C. Matson; honorary secretary, Mr. Andrew Jas. Fuller.

LANTERN SLIDE MAKING

BY G. T. HARRIS.

CHAPTER VI.

Retouching Lantern Slides—Colours—Spotting—Varnishing—Masking—Selecting Masks—Making Masks—Binding Slides with Cover Glasses—Discs for Marking Slides.

BEFORE lantern slides have the finishing touches put to them in the way of spotting and binding, it is a wise course to put them through the lantern as soon as they are dry, to ascertain beyond doubt that the density and clearness entitle them to rank as finished slides. The constant and experienced worker can gauge with certainty the quality of his slides without seeing them projected, but the intermittent worker, especially during his novitiate, may well be excused if he fails to appraise correctly the quality of his slide. It entails very little trouble, as the slides can accumulate until a convenient quantity has been made to make it worth while arranging the lantern, and once the slides are seen to be satisfactory when projected, the lantern-slide worker is spared the annoyance of finding that he has finished and bound up a worthless slide.

Before masking and binding the slide, it should be placed on a retouching desk and carefully examined by transmitted light for defects. Of course, before making the slide the negative will have been carefully spotted and all possible defects removed as neatly as can be, but in spite of this, the lantern slide will require attention at the spotter's hand from defects that have made their appearance during its manufacture. As a rule, the most that can be done in the way of retouching to a lantern slide is the removal of transparent spots by filling up with colour. Knife work, or any process that disturbs the surface of the film, is inadmissible, as, unless most skilfully done, it shows unpleasantly on the screen. It is possible, in certain cases, to rub down dense portions with methylated spirit, in the same manner as is usual with negatives, but the instances when such a procedure becomes necessary do not often occur, and are principally those in which it is absolutely necessary to make the best of a slide from a poor negative.

Spotting should be done by the aid of a very fine camel-hair brush and colour. The precise colour will depend on the colour of the slide, but Indian ink and Indian red will, either singly or combined, match nearly all slides. A reading glass of low power is of very great assistance in enabling the operator to apply the colour neatly to each spot. Furthermore, no light should reach the lantern slide from the back of the operator, or he will fail to judge corectly of the density of his spotting, and find when the slide is shown on the screen that all the spotting shows up darker than the transparency. The colour should be kept of slightly less density than the opacity of the slide, and to ensure this being so no light should reach the operator except that which is transmitted *through* the slide. The colour should be used in quite a viscid condition, and tube colours are better than dry, as the menstruum used in their preparation gives them a good working consistency.

As a rule, lantern slides on commercial gelatine plates are not vanished, nor does there appear to be much necessity for varnishing them, as the film, unlike collodion or collodio-bromide, is not liable to be readily damaged by friction. Varnishing certainly introduces the risk of applying specks of dirt and hairs to the film along with the varnish; on the other hand, if it is well done with a clean, hard varnish, immunity is secured from fungoid growths, which not infrequently make their appearance on gelatine films, however well defended and carefully stored. Personally, I always varnish a slide of excellent quality, more especially when it has caused me considerable trouble to prepare.

The following varnish has been spoken of in high terms for varnishing lantern slides:

Saturated solution of amber in chloroform	1½ ounces
Pure benzole...	1½ „
Gum dammar	¼ ounce

When dissolved filter several times through cotton wool. Just warm the plate before varnishing, and dry well over a gentle heat afterwards. It gives a bright glass-like surface which is quite hard and does not become tacky.

A convenient and reliable varnish is made by dissolving one part of dammar in twenty parts of benzole. This is applied without heating the plate, and dries with a brilliant hard surface. It is advisable in varnishing lantern slides to return the surplus varnish from the plate to a second bottle fitted with a filtering funnel and cotton wool; by so doing a stock of well filtered varnish is always maintained.

Selecting a suitable mask for any particular slide is a matter that must be left to the personal taste of the worker. It is, however, not quite the simple matter it looks at first sight. Time was when a rigorous conventionality assigned a perfect circle as the only possible shape for a lantern slide mask, then dome-shaped and cushion-shaped masks began to be seen, until at the present time the decision is left very largely in the hands of the slide-maker.

It may be said that, generally speaking, lantern slides should be amenable to the same reasoning and rules that good taste and culture apply to the framing of pictures. The slide mask is, to all intents and purposes, the frame of the picture, and its shape should vary with the subject in the same way that the frame of a picture is made to do. Rectangular openings will always be in better taste than cushion or dome-shaped openings, and their dimensions should be proportioned to the subject, a very useful all-round size being a rectangle with an opening of 2⅞in. × 2in. Circles are useful, but of limited application, though for many scientific subjects they are invaluable. Commercial masks are, naturally, of stock sizes, and a well assorted selection of shapes will enable the worker to select one that will suit some subject better than it would another, but not infrequently subjects will present themselves that demand a specially cut mask to frame them most satisfactorily, and the lantern-slide worker must needs become his own mask cutter.

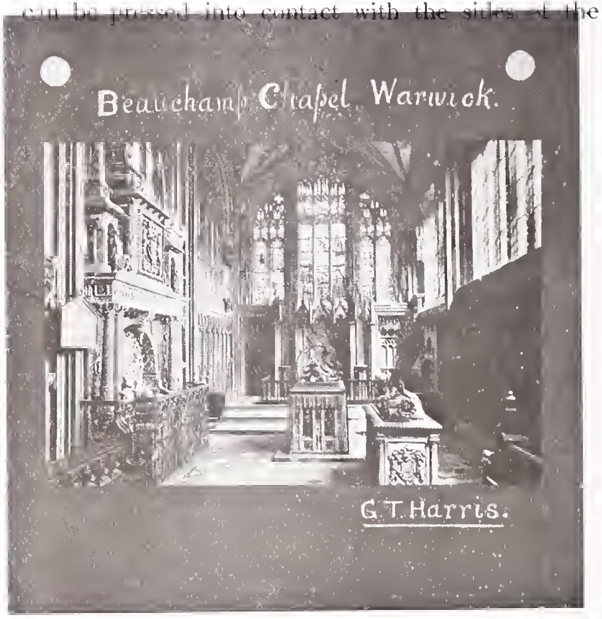
The quickest and neatest way in which to make masks of any desired dimensions for odd subjects is to cut strips of varying widths from the best black needle paper. A supply of these strips may be cut for stock of standard widths, say, half inch, one inch, one and a quarter inches, etc. The strips are afterwards cut up into lengths of three and a quarter inches, the size of the lantern slide. With a supply of these strips, cut accurately, it is a very simple matter to make a rectangular opening of any dimension by simply affixing them to the slide with a touch of gum arabic, or any other adhesive that may be convenient. A pair of compasses will enable the several strips to be placed equidistant, so that on completion the opening is perfectly true. This method is very much better in all ways for the amateur mask-cutter than attempting to cut a rectangular opening in a sheet of paper.

The masks should be affixed to the film side of the slide with a touch or two of gum, and then placed under even pressure to become set in a perfectly flat condition. If when making the slide the negative is placed in the camera with its film towards the lens, the lantern slide, when looked through with its film towards the spectator, will show the subject in its correct position. Before mounting the cover-glass with the slide, the title may be neatly printed on the black mask with Chinese white, utilising the top of the mask for the purpose. On placing the slide in the lantern, if the title written in Chinese white be placed towards the condenser the picture appears the right way about on the screen. If the title cannot be written in white on the mask, owing to the negative being reversed when the slide was made, the slides must bear white spots to indicate their correct position—a method described further on.

The cover-glass having been cleaned and placed in position upon the slide, the slides have now to be bound together with the gummed strips sold for the purpose.

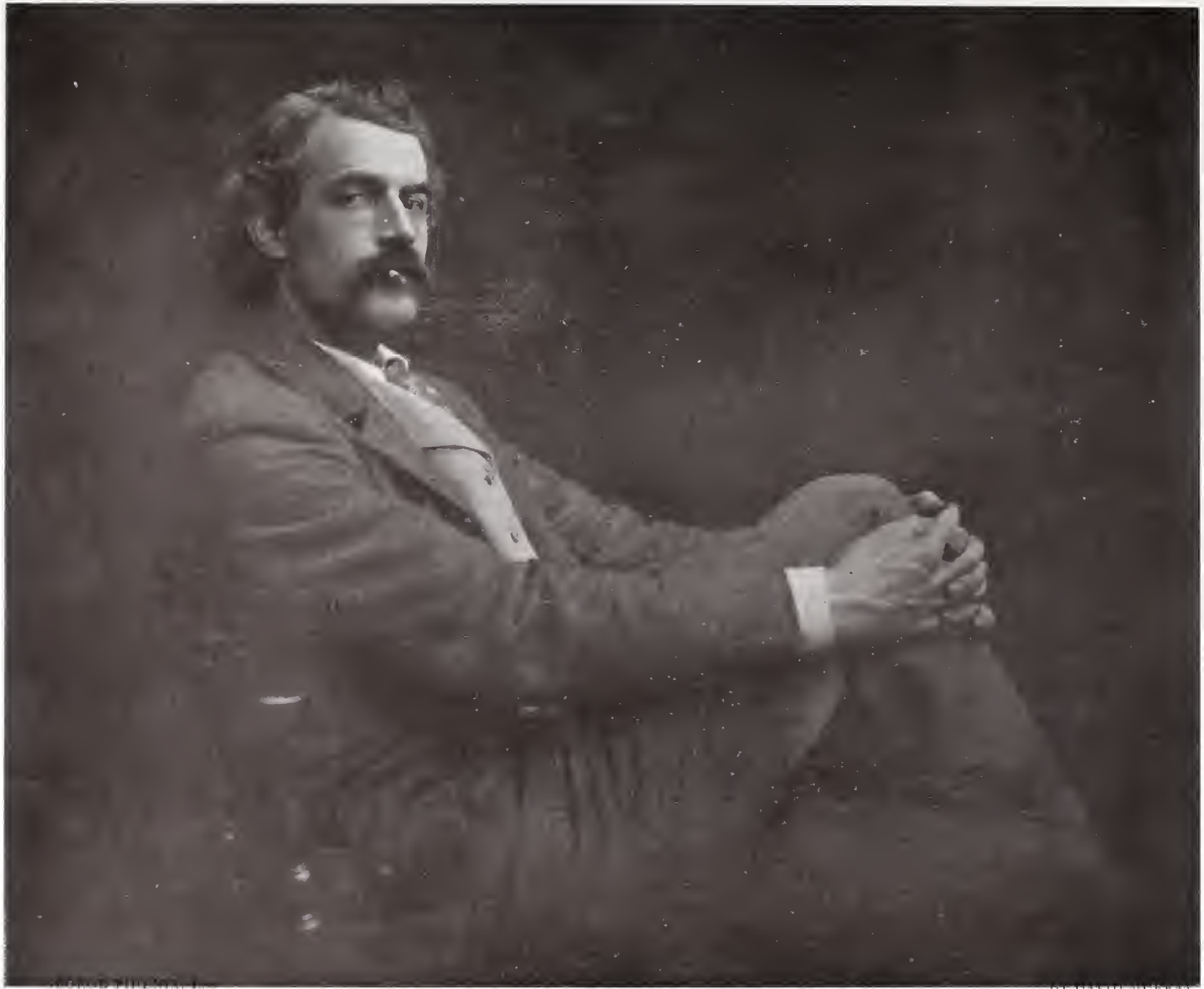
Binding a slide is one of those apparently easy photographic operations that is a perfect nuisance until some dexterity has been acquired. Vices, to hold the slide and cover-glass firmly together while the gummed strips are being affixed, may be obtained from the dealers, and they probably help the beginner, but later on he will certainly find that his fingers are his best friends.

The gum strips are sold either cut to the length of the slide, three and a quarter inches, or in sufficient length to bind around the whole of the slide at one operation. For the beginner, the divided lengths are certainly the more convenient. Four of these strips are taken, the gummed surface *damped* (not made wet) with a sponge and placed aside for a few minutes, gummed side uppermost, on a piece of thick felt cloth. The slide and cover-glass are now taken between the index finger and thumb of each hand, and their lower edges placed in the centre of the gummed strip, downward pressure on the soft felt surface sufficing to attach the strip firmly to the lower edges of the slide and cover-glass. On being reversed, so that the edges bearing the gummed strip come uppermost, the strip can be pressed into contact with the sides of the slide and cover-glass by the forefinger and thumb of each hand. The remaining sides of the slide are bound in the same manner. This is the simplest manner known to me of binding lantern slides, and I have tried a great variety, both with vices and without.

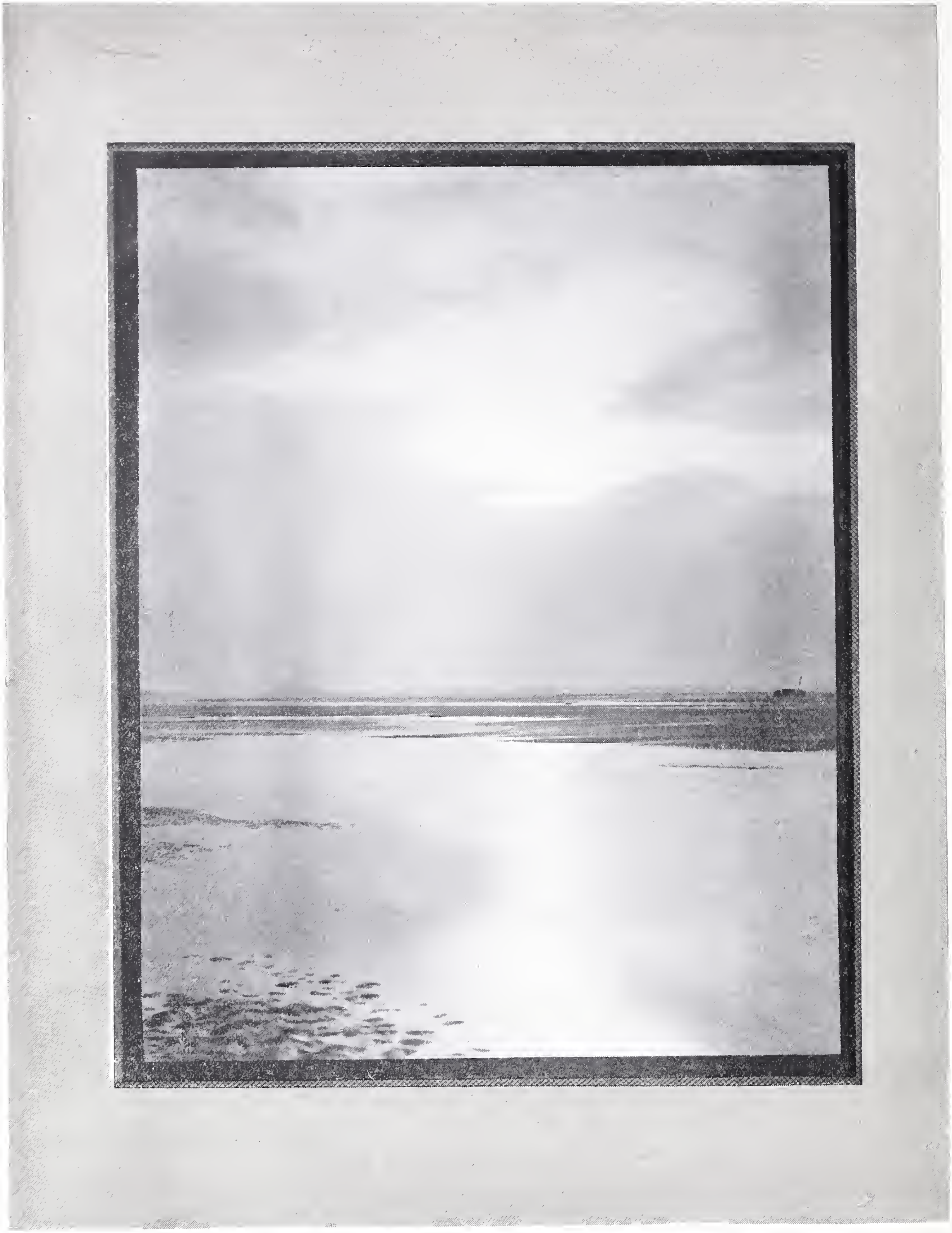


Some years ago the Photographic Club introduced a system of marking lantern slides to facilitate their being placed in the lantern so as to show correctly on the screen; it consisted of affixing two white discs of paper to the slide, on the side that gave the subject its correct rendering as regards right and left-handedness when viewed as a transparency. These discs are placed at the top of the slide when it is held upright. If the slide is placed in the lantern with these discs down and towards the condenser, the view, or subject, is shown upon the screen correctly as to right and left-handedness. This system of marking lantern slides is now generally adopted, and a finished lantern slide so "spotted" is shown in the illustration above.

"THE USE OF PYROGALLIC ACID" is a small pamphlet written by Mr. Chapman Jones with his accustomed accuracy. It is published by Messrs. A. and M. Zimmermann, of 3, Lloyd's Avenue, London, E.C., who will forward a copy free to anyone who cannot obtain it from a dealer.



("Pictures from the Two Exhibitions," No. 58 R.P.S., see page 501.)



A SYMPHONY IN GREY. BY C. F INSTON

("Pictures from the Two Exhibitions," No. 59 R.P.S., see page 504.)

Flashbags—A New Flashlight Contrivance.

WITH the dark evenings comes the need for flashlight illuminants, and anything that tends to simplify the use of magnesium and similar powders will meet with a hearty welcome. The Flashaxe candles, which Messrs. Fuerst Bros., of 17, Philpot Lane, E.C., placed upon the market, proved exceedingly useful. As, however, these were designed to burn for some seconds, they were not quite suitable for use when a brief but brilliant light was required. To meet the demand for something of this nature, the same firm have introduced an instantaneous flashlight contrivance, which they call the Flashbag.

The name is descriptive of the article, which is a bag of thin paper containing the pyrotechnic compound, and has at one corner a string, by which it may be suspended, and at the opposite corner a strip of touch paper. It may be hung up anywhere, on a wall, or on the end of a walking-stick. Ignition is effected by setting fire to the touch paper, which burns for a few seconds, and gives the operator an opportunity for making any final arrangements in the group or other subject that is being photographed.

It is well to make a slit or two in the bag with the point of a penknife immediately before the touch paper is ignited to give the gases evolved free exit. Unless this is done a hissing noise or slight report may take place. The paper used for the bag is so thin that it is practically all consumed in the flash, but the careful operator will not fail to watch for any small burning fragments that might prove dangerous.

The illumination given is exceedingly intense, is very brief in duration, and is, in consequence, well suited for groups and portraiture generally. The few seconds that elapse between the ignition of the paper and the flash will be welcomed by the operator, enabling him to give his attention to the sitters at the critical moment. The Flashbags are sold in two sizes—No. 1 at 3s., and No. 2 at 5s. 6d. for boxes of ten.

The Cleron Flat Film.

THE Cleron flat film is made by the Brooks-Watson Daylight Camera Co., Ltd., of Abercromby Works, Great Homer Street, Liverpool, in two speeds, the Ordinary and the Special Rapid—these are quoted respectively as having speeds of f/45 and f/128 Wynne. The celluloid on which the emulsion is coated is both thick and flat.

We have been using recently some of the Special Rapid films, and have found them not only speedy, but easy and pleasant to develop. The image appears quickly, and gathers density with great readiness and absolute freedom from fog. For subjects in which the contrasts are flat these films will give all the relief possible without forcing. The firm nature of the support is of great advantage in the camera, for when firmly gripped by the edges the surface is practically as flat as a glass plate, and there is not the risk that there is with much thinner films of one corner getting loose and being driven down and bent over when the shutter of the dark slide is returned.

In the course of our test we made use of several developers and obtained excellent results with all. The company recommends the following pyro-soda formula, and the only objection that we have to it is that the bromide is wholly unnecessary. The proportions are: Pyro 2¾ grains, potassium metabisulphite, ¾ grain, sodium sulphite 22 grains, sodium carbonate 22 grains, and potassium bromide ¼ grain to the ounce of water. The films give density with so much ease that in our opinion from one and a half to two grains of pyro is sufficient.

For use with the films, Cleron black film cards are supplied at moderate prices. The films are listed at 1s. 6d. per dozen for the Ordinary and 2s. for the Special Rapid. As previously stated, we have found them rapid, clean, and wonderfully fine in grain.

Panel Book Postcards.

THE photographic postcard having become an institution universally accepted, we are now favoured with the book postcard of panel shape and in size about 6½in. by 1¾in. The Rotary Photographic Co., Ltd., of 14, New Union Street, Moorfields, London, E.C., finding that their pictorial cards of this series have been the hit of the season, have put sensitised cards on the market for general use. The cards are issued in four kinds, two of them coated with the Rotograph emulsion and two with the Rotox emulsion, and each may be had with glossy or matt surface.

The Rotograph is a bromide emulsion, and must be developed in the dark room, while the Rotox is of the slow type and may be manipulated by gaslight if a little care is taken to shield the cards from the direct light. Exposure and development are precisely the same as for the Rotograph and Rotox papers, and as instructions are issued with each packet, it is unnecessary to particularise them here. He would be a bold man who dared to prophesy as to what will or will not become the fashion, but if quality in the materials counts for anything these new cards should obtain a fair share of popularity. The size of the card affords sufficient space for full length single figures taken on a quarter or 5in. by 4in. plate, or for panoramic views of similar size. The shape is novel and attractive, and the cards make excellent book markers.

It should be noticed that the name of the sender and the name and address of the recipient alone may be placed on the card when it is franked with a halfpenny stamp. Anything of the nature of a letter requires a penny stamp. The cards are sold in packets of twelve at sixpence, with a considerable reduction in price when purchased in large numbers.

Two Swedish Exhibitions.

TWO photographic exhibitions have recently been held in Sweden, and have at once received distinguished support and attracted considerable attention throughout the country. The subject was dealt with in detailed form by the press, and the number of visitors to one of them reached the respectable total of nine thousand.

One of the exhibitions was held in Helsingborg in co-operation with an industrial exhibition there. It was warmly supported by professional photographers and a smaller proportion of amateurs, amongst whom were the Crown-Princess and the well-known explorer, Dr. Sven-Hedin. Gum-bichromate and carbon prints predominated, and bromide enlargements were among the exhibits. It would appear to have been well supported, as it remained open from the beginning of June till the middle of September.

The second exhibition was held in the galleries of the Royal Academy of Arts in Stockholm, and although only open from the 4th to the 26th of October, received during the three weeks the number of visitors mentioned above. Gum-bichromate and carbon prints formed the majority of exhibits here also, and amongst them were examples of photographs in three colours by the gum process. The Swedish Tourist Society occupied one room entirely with its members' work. The president of the exhibition was Dr. L. Looström, of the National Museum, and amongst the exhibitors were H.R.H. the Crown-Princess and Prince Gustav Adolph, Dr. Sven Hedin, Count Eric von Rosen, Professors Nathorst, Montelliur, Rosendahl, and many other professional and amateur workers.

Amidol and Acetone Sulphite.

AMIDOL, as is well known, gives with sodium sulphite alone a very good developer. If to a solution of amidol 1 grain, sodium sulphite 10 grains, water 2 drams, six grains of potassium metabisulphite are added, the developing power is considerably diminished. An addition of six grains of acetone sulphite, on the other hand, does not diminish it, but preserves it. An amidol and sodium sulphite developer does not keep very long, but if it contains acetone sulphite as well, it is very durable, and keeps even in open dishes for several days. The following formula, Dr. Hauberisser states, gives good results:

Amidol	1 grain.
Sodium sulphite	10 grains.
Acetone sulphite	2 ,,
Water	1 ounce.

"The time has come, the Walrus said, to talk of many things."

FIERCE is the struggle in the photographic world to dig up original subjects or to treat a familiar subject in some novel way, such, for example, as framing it upside down. We are rapidly becoming *blasé*, and the most beautiful pictures are either "damned with faint praise" or sneeringly dismissed as "the usual thing." Mr. Will Cadby recently sounded a fresh note by presenting a picture of the family clothes-line—a parlously perilous subject. In this case, however, the week's wash was not a heavy one, and the articles on view comprised only one thingamybob, one whatyoumaycallit, and one pair of *honi soit qui mal y pense*.

* * *

It might have been worse.

* * *

Another subject that can scarcely be called hackneyed is a group of identical pictures taken through the multiple eye of a beetle. First catch your beetle. Eye him carefully. Then uneye him still more carefully. The necessary microscope, etc., are mere details. The chief thing is the beetle.

* * *

Do you ever, kind reader or readeress, have a slap at any of the competitions with which the air is thick?

* * *

If not, why not? If you do, why do you?

* * *

For my part there is scarcely a day passes without my vaguely making up my mind that I will win a silver tea service, a bicycle, a pound a week for life, or a penknife. It is quite an easy thing to decide to do this. But if by any chance I actually screw myself up to the point of action, and commence to read the rules and conditions, I invariably find that the date of entry is long past. Well, a year or two ago, I mind me, I picked up in an idle moment an exhibition prospectus—one of quite an imposing pile of similiar documents. Somehow, I got interested in it, and rather liked the design of the plaques to be awarded. The entry form was to be in by November 1st. It was then October 31st. For once I was in time.

* * *

Now, when I do start it takes a lot to stop me. Within forty-eight hours the enlargements made for the purpose were finished, framed, and packed ready for despatch on the appointed day.

* * *

Then came a letter from the exhibition secretary expressing surprise at the receipt of entry form, which he had the pleasure of returning (pleasure!), and from which I would see that it was three years old.

* * *

Being no good at entering competitions, it has naturally entered my head to organise one myself. In fact, I have harboured the idea for some time, and had even got so far as to decide on a subject for a Christmas competition, when I found, to my dismay, that once more I was too late. It wasn't a bad idea either. I had not decided what form the prize should take, but whatever it might have been it was to be awarded for the best photograph of a goose or turkey. The prints were to reach me on December 22nd, and were to be accompanied in every case by the actual bird, for purposes of comparison with the prints. Prints would be returned if accompanied by stamps.

* * *

Birds would not.

* * *

I mean to have a competition somewhere and somehow. Perhaps some kind reader will oblige me with a subject and a set of rules. I feel confident I could manage it then.

If there is one prize more than another in all these competitions that I should like to capture it is the "*Photography* challenge cup." Probably you have not seen the original, but you have seen the illustration of it; and although illustrations sometimes play it pretty low down, you can take it from me that the cup in question was not taken with a telephoto lens to make it look big.

* * *

Could I but secure that cup I should judiciously place it in full view of the tradesmen's entrance. Then would it restore my somewhat moth-eaten credit, and revitalise that confidence in my financial stability which has all but expired in the breasts of the butcher, the baker, and the candlestick maker.

* * *

Other sweet uses has that same cup. But, alas! only professionals may hope to imbibe their four ale from that resplendent flagon.

* * *

It is, by the way, a curious thing that there is so much contentious disputation as to a satisfactory test for deciding whether a given photographer is an amateur or a professional. There are so many dissimilarities between the two that it is surprising how the one can be mistaken for the other. I was once charged with the heinous crime of being a professional myself, and the reason assigned was that my work was too good for an amateur. To this day I cannot quite decide whether to laugh or cry at the remark, but there is no doubt that the one who made it was a professional. A professional idiot.

* * *

Here follow a few of the more striking points of difference between an amateur and a professional, and let us hope that there will be no further difficulty in the matter of classification:

The professional takes portraits; the amateur takes pains.

The professional practises photography for a living (which he often fails to secure); the amateur practises it to show the professional how it ought to be done.

The professional has a showcase; the amateur a show camera.

The amateur puts gold into his toning bath; the professional puts it into his pocket.

The professional lives in a glass house; the amateur throws stones. (This is to make ripples in still water or to scare away foreground dogs.)

The amateur understands photography in all its branches; the professional is an ignoramus. Ask the amateur. The professional turns out clean, straightforward photography; the amateur makes a mess of it. Ask the professional.

When the professional takes a portrait for five shillings it is generally worth it; when the amateur takes one for nothing it is generally worth it.

The professional earns his daily bread with a Grubb lens; the amateur employs a Cooke.

In taking portraits the professional uses a background; the amateur a back garden.

* * *

A.S.K.—No, I cannot say why the new "Tanna" sensitiser costs a "bob."

THE WALRUS.

SUBSCRIPTIONS.

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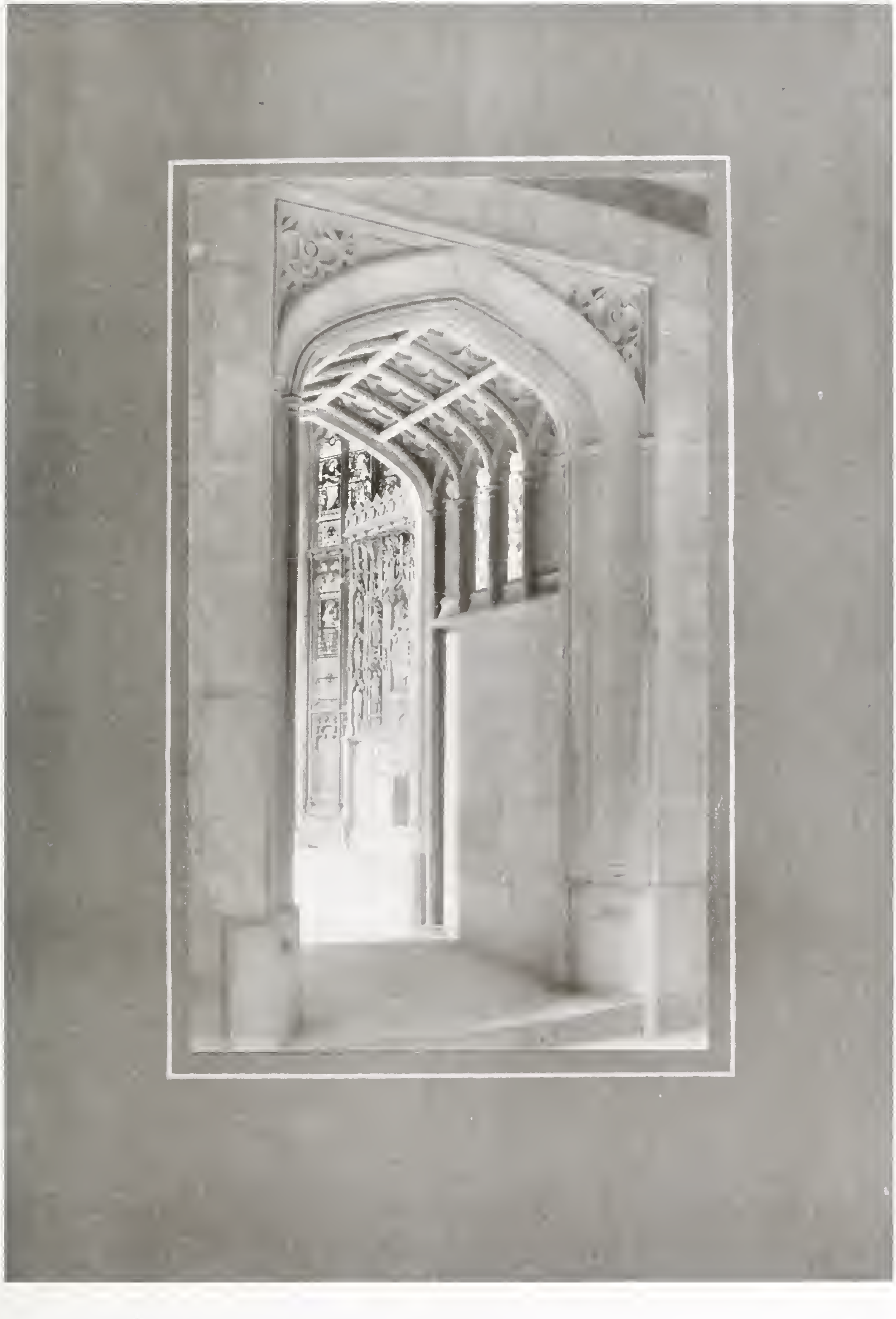
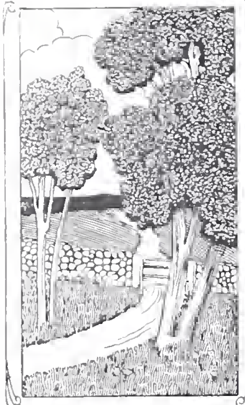


THE CHAPEL OF ST. PAUL, GLOUCESTER (See Page 536). BY F. H. EVANS.



1903.

A RETROSPECT.

By the Editor.

WITH this issue of *Photography* the sixteenth volume is brought to a close, and the first year of its extended scope and enlarged size is completed. At the close of each year it has been our custom to review the photographic events which have characterised it, and to give a short summary of the progress in the art-science which has marked the twelve months, and on the present occasion we do not propose to make an exception to this rule.

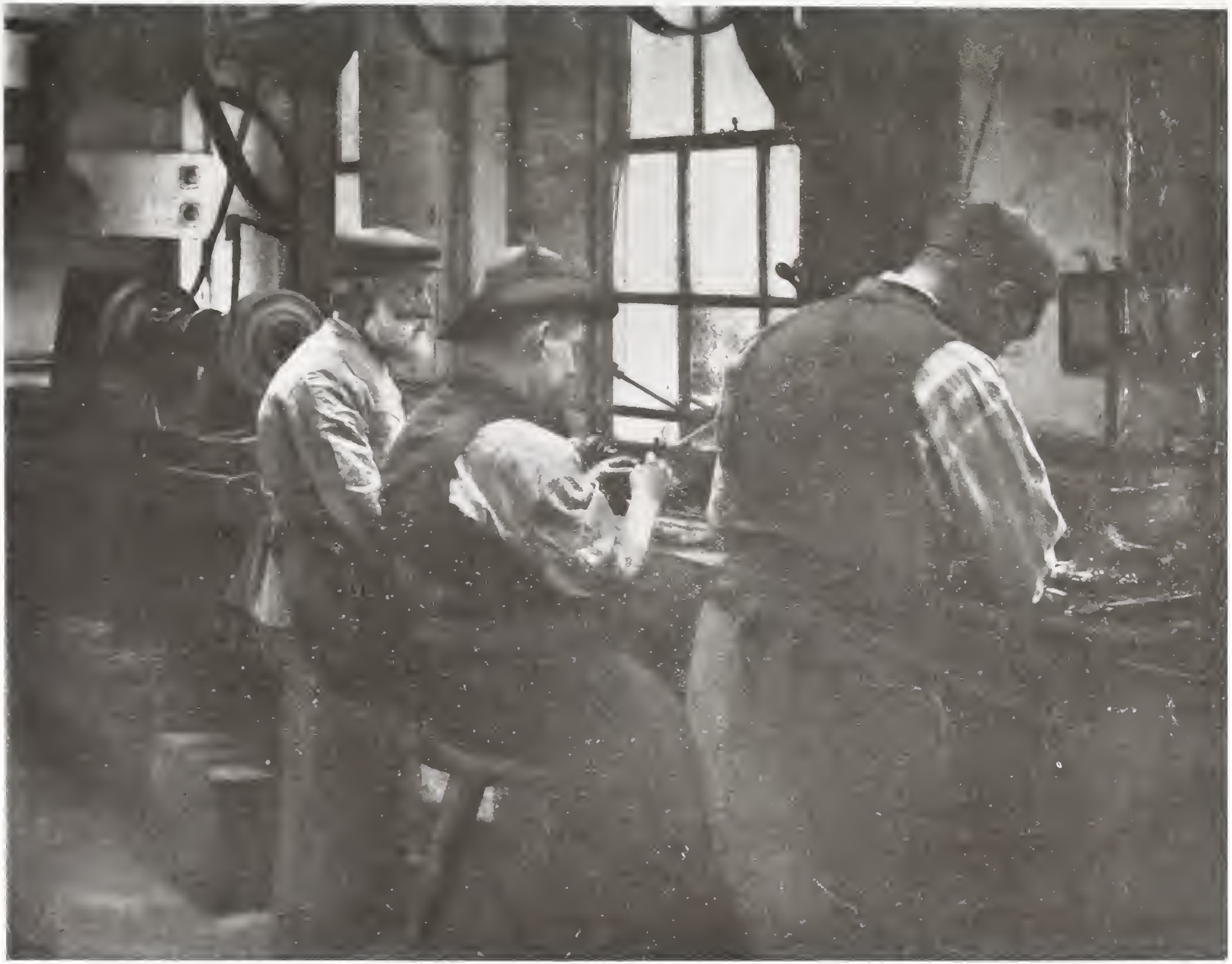
Before passing on to do so, however, we may perhaps be pardoned if we digress for a moment into a more personal matter. We are not believers in the policy of incessant trumpet blowing, and have always inclined to the belief that the readers of *Photography* study it for the information it gives upon the particular subject of which it professes to treat; and would very naturally resent any attempt to convert it into an organ for the glorification of any particular photographic cult, the self-praise of its editor, or the incessant setting forth of its claim to their consideration were we foolish enough to make one. So great a change as that which was made in the style and character of *Photography* at the beginning of 1903, and the threefold increase in its price, may form legitimate ground for a note, now that the policy has had a fair trial for a twelvemonth.

When that change was made, we ourselves believed that there was a large and growing public to which a carefully printed weekly threepenny review of pictorial, scientific, and technical photography would appeal. We believed that we were already in touch with a great part of that public, and that with the proposed alterations we should not only retain the great bulk of our former readers, but add to them many whose one criterion was "the best." Prophets of evil were not wanting to take quite the opposite and pessimist view; several foretold disaster to the journal, one very good friend calling the change "the knell" of *Photography*. We did not think so meanly of our readers and of the great photographic public, and time has shown that we were right.

May we take this opportunity, therefore, of putting upon record once and for all the kind support and encouragement from so many of our readers, which has played so large a part in bringing about the realisation of our sanguine anticipations. We can never personally know the many with whom we are in weekly communication and mental contact, but we would assure them that we do not lose sight of the fact that our success, greater than we dared to anticipate, has been due to no small extent to their friendly recommendations.

For the new year and new volume, which we commence next week, we have new plans for its extended interest and usefulness. Upon this subject we prefer for the present to say nothing in any detail, contenting ourselves with the note that some at least of the new features will commence with next week's issue. We shall spare no pains to make the new volume superior, both in its literary contents and in its illustrations, to those which have preceded it.

The progress in photographic discovery during the year has not been very marked. The Katatype process of Ostwald and Gros, which was dealt with in *Photography* for January 31st, by which catalytic action was employed for the production of photographic prints, aroused a good deal of attention, but little, so far, seems to have come of it. Ozotype, being more



THE FOREMAN. ("Pictures from the Two Exhibitions.' No. 60. See page 538. BY JOHN H. GASH.

directly available, has gradually grown in favour, although there are still wide differences of opinion as to the fundamental character of the reactions which it employs.

The process of toning bromide prints and enlargements by means of sulphur, devised by Mr. Blake Smith, and described in our columns last year, has been simplified and made more certain and reliable in his latest method (*Photography*, October 10th, p. 301); and was recently described by a great authority upon the subject as "the most important advance in bromide work since bromide paper has been put upon the market."

Another very decided step in the direction of progress was the publication by Mr. H. W. Bennett (*Photography*, October 17th, p. 321) of his improvements in the sensitising of carbon tissue, which will go far to increase the popularity of the carbon process, especially amongst those who cannot obtain readily fresh supplies of the sensitised tissue.

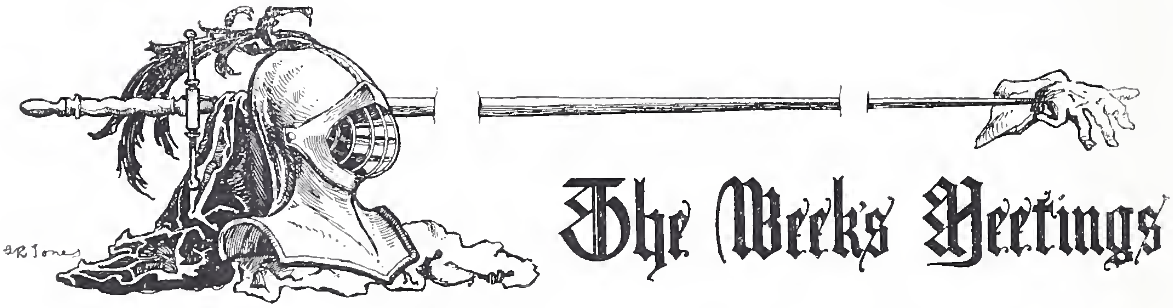
It is with no small degree of satisfaction that we note that the first publication of each of these advances was made in the columns of *Photography*, and that there is a very gratifying tendency to make use of this journal as the means of publishing the more important improvements and discoveries in the art-science.

While not strictly speaking novel, we cannot pass over the series of articles by Rev. J. M. Bacon on photography from balloons; Mr. J. H. Avery, the official photographer to the Sultan of Morocco, on "Photography in Sunset Land"; the most valuable contributions of Sir William Abney on three-colour work; the series by Mr. W. Taylor on the manufacture of photographic chemicals; and that now running by Mr. G. T. Harris on lantern slide making.

Within the limits of so brief a review of the year as this must necessarily be, we cannot hope to note every important communication as we should wish. We cannot put down our pen, however, at the close of this year without putting on record our indebtedness to our colleague Mr. McIntosh, and to the many other kind personal friends and able contributors to whose valuable help is owing the success of the venture. It is one of the most gratifying feelings of our position that we have received such hearty and unsolicited support, and that *Photography* has gathered round it a number of contributors giving it their best, and that without having had recourse to that form of log-rolling which is too often obvious in modern journalism.

Alike to contributors and readers at home and abroad, we offer our very heartiest good wishes at this season: May their Christmas be a merry one, and may 1904 be marked both by happiness and prosperity.

R. CHILD BAYLEY.



The Week's Meetings

THURSDAY, DECEMBER 24TH.

Glasgow Eastern. Social Meeting and Presentation of Awards.
Rodley. Lantern Night.

SATURDAY, DECEMBER 26TH.

Scarborough. Annual Exhibition opens.

MONDAY, DECEMBER 28TH.

South London. Bromide and Gaslight Papers. H. C. Beckett.
Halifax. The Rajar Changer.
Boro' Poly. Ninth Annual Exhibition opens.

TUESDAY, DECEMBER 29TH.

Thornton Heath. Trade Demonstration. F W. Slater.
Hackney. A Visit to some English Cathedrals. A. W. Cook.
Monklands. Lantern Slide Making. J. W. Paterson.
Bedlington. Slide Making. A Member.
Darlington. Five Minutes' Papers by Members.
Brentford. Lantern Night.
Nelson. Gum-bichromate Process. A. Plunkett.
Morley College. The Platinum Process.

WEDNESDAY, DECEMBER 30TH

Leeds C.C. Annual Meeting and Election of Officers. Lantern Night.
Bristol. Exhibition of Lantern Slides.
G.E.R. Mechanics' Institute. Apparatus and its use. H. W. Bennett.
Balham. Results of Work for Term.
North Middlesex. Lecture. W. Thomas.
Edinburgh Lantern Slide Making.

THURSDAY, DECEMBER 31ST.

N.W. London. Demonstration of Platinotype. The Platinotype Co.
Richmond. Slide Competition.
L. & P. Halation and its Prevention. T. Thorne Baker. Presentation of Henderson Award.
Handsworth. Lantern Night.

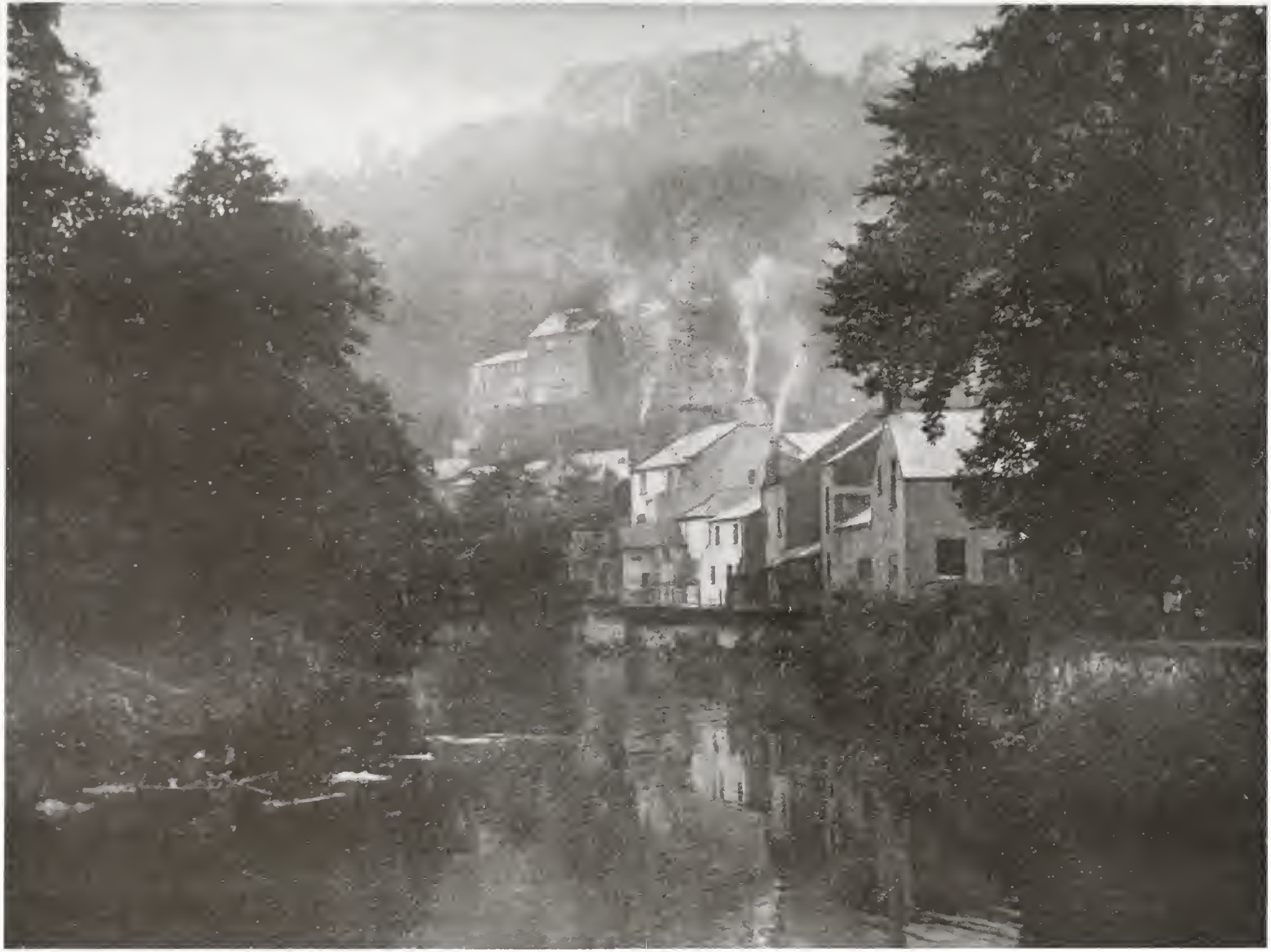
FRIDAY, JANUARY 1ST, 1904.

Holmfirth. Annual Exhibition opens.
Watford P.U. The London Photographic Exhibitions.
Walsall. Lantern Night. H. L. Lewis.
N.W. London. Printing Methods. G. F. Blackmore.

SATURDAY, JANUARY 2ND.

Holmfirth. Annual Exhibition closes.

Societies will have their meetings announced here if the syllabus is sent to us at the beginning of the Session, or from time to time.



ON THE DERWENT. ("*Pictures from the Two Exhibitions.*" *No. 61. See page 538.*) BY J. W. P. GOODWIN

PLOUGHING IN TUSCANY.

" Pictures from the Two Exhibitions.' No 62. See page 538.)

BY ALEX. KEIGHLEY.

QUESTIONS AND REPLIES

Readers wishing for information upon any specific point in connection with photographic theory or practice are invited to make use of the "query form," which will be found amongst the advertisements. All enquiries must comply with the conditions stated upon the query form; those which do not do so are neither acknowledged nor answered. All enquiries are answered by post. We cannot undertake to make replies in the paper. We print below from time to time a selection from the queries we receive, and our replies.

THE LOOKING-GLASS IN HOME PORTRAITURE.

Please say how a looking glass is used in taking a portrait in an ordinary room, and if there is much advantage in using it.

There is no advantage—quite the reverse—in using a looking glass when the picture may be obtained without it. The mirror is only of advantage when the room is so small that the camera cannot be placed at a sufficient distance from the person or thing that is to be photographed. In such a case the camera may be placed by the side of the sitter, and the glass opposite at the other end of the room, when, of course, the distance is doubled. Naturally the camera must be sufficiently on one side not to be included in the picture. There will always be a slight blurring due to the doubled reflection—one from the surface, and the other from the silvered back of the plate. This may not be noticeable; a worse defect is the distortion due to the uneven surface of the glass. This is observable even in the best mirrors, and extremely so in cheap looking glasses. Still, with all its defects the mirror enables work to be done that could not be carried out without it.

SUNKEN IMAGE ON HOME SENSITISED PAPER.

I have been trying to sensitise some paper by a formula for silver printing that you gave me. I can get good tones, but the picture is very dim, as you will see by the print enclosed. Please say what is the cause, and how it may be remedied?

The sunken-in appearance is caused by the paper being very lightly sized. A preliminary coating of gelatine or starch to the paper before the salting solution is applied will retain the image on the surface. A solution of starch made with boiling water and much more dilute than when it is made as a mountant is the most convenient to use. It must be used while still hot and so dilute that a piece of paper dipped into it and dried shows no appreciable deposit on the surface. The paper may be either dipped or floated; the latter is the simpler operation, and in that case the paper must be hung up by two corners to dry. If gelatine is used, it should be so dilute that it does not form a jelly when cold. The gelatine has a tendency to give warmer tones than when starch is used. With a platinum toning bath starch sized paper gives very pure cold blacks, particularly if citric acid is used in the bath.

MAKING CLOUD NEGATIVES.

I want to get a number of cloud negatives for combination printing with landscapes. Is this the best time of the year? Which kinds of clouds are best? If, by pointing my camera upwards from my window I can avoid the neighbouring houses, should the swing back be used.

Spring and autumn are generally the best periods of the year for cloud forms, but if suitable clouds are in the sky, it does not matter when they are taken. A dull, leaden, uniformly lit sky is, of course, useless for combination purposes, but frequently in the winter months such a sky is partially broken by the light of the sun, itself obscured, struggling through the fog or mist, and then very beautiful forms are obtainable. Useful skies cannot be got by pointing the camera upward; the clouds near the zenith are of quite a different shape, and are in different perspective from those near the horizon, and it is the latter that are wanted for combination with landscapes. In all cases it is desirable to use an orthochromatic plate and yellow screen, though good results may be obtained on an ordinary plate and without a screen when the contrasts are strong. One objection to the use of the ordinary plate is that, in order to obtain sufficient contrast on it, there is a tendency to under-expose, with the result that the soft gradations are entirely lost. The exposures given to the sky should be as full, relatively, as those given to the landscape. Development should not be carried too far, otherwise before the high lights can be printed out the shadows will be over dark, and the resulting print will be altogether false.

OUT OF DOORS PORTRAITURE.

Please say how the enclosed portraits might have been improved? They were taken out of doors.

The portraits suffer from the faults common in most out of doors work. There is too much top light, which casts shadows under the eyebrows, nose, etc., and there is a lack of roundness due to the light being equally strong on all sides. A tissue paper screen suspended a foot or two above the head would cut off the excessive top light. A simple way of doing this is to cover the largest size of hoop, such as children play with, with the tissue paper, and to support it by means of a clothes horse. If the sitter is placed close to the wall of the house, this will bring one side of the face into shadow, and get rid of the flatness seen in the prints sent. The background will, of course, stand at right angles to the wall. A blanket has apparently been used as a background, and is suitable enough if it is drawn flat, and not allowed to hang in folds, as in the specimens enclosed, but two yards or so of the thick paper used by upholsterers to underlay carpets will be found more generally useful. It may be tinted, if required, with distemper, and can always be made to hang without folds or creases.

ENLARGED NEGATIVE DIRECT FROM A NEGATIVE.

Is it possible to make an enlarged negative without using an intermediate positive, and, if so, how? I ask this not because I object to the trouble of making the positive, but because I think a direct negative would probably be better than when a positive has to be used.

One of the processes by which a reversed negative is made direct from a negative might be used in enlarging, and as the work would be done in the camera the reversal from right to left may be avoided by placing the negative with the glass side towards the lens. As all these processes are uncertain in the results obtained by inexperienced workers, we doubt if any advantage would be found over the more ordinary methods. It is much more probable that the early results would be inferior.

The negative having been adjusted as above, a very full exposure must be given to the sensitive plate, which is then developed as a positive in the ordinary way, but development must be continued till the deepest shadows have reached right through to the glass. It is not to be fixed, but must then be washed very thoroughly and the positive image dissolved away in a two per cent. solution of ammonium persulphate slightly acidulated with sulphuric acid, after which it must be placed in a five per cent. solution of sodium sulphite to clear. In place of ammonium persulphate the permanganate and sulphuric acid reducer may be used. It is less expensive, and the pink stain that sometimes forms may be removed in a dilute solution of oxalic acid.

After well washing, the image in silver bromide that remains must be developed, and it is at this stage that the troubles of the process make themselves apparent. If the first development has been checked at too early a stage the new negative will be over dense, and if it has been carried too far the negative will be thin. As the whole of the proceedings after the positive has been placed in the persulphate bath may be carried out in white light, it is possible in the case of slight under-development in the first instance, and when the reducer has done its work, to reduce the silver bromide image still farther by prolonged immersion in the sodium sulphite bath. After the second development the plate may be fixed in hypo to remove any silver bromide that may be left.

PORTRAITURE BY ACETYLENE GAS.

Can you say if it is possible to take portraits in a studio at night with acetylene gas? How many burners would be required, and should the lights be arranged as compactly as possible or spread out to diffuse the light? Would the shadow side require to be lit up with one or two burners, or would a reflector as used for daylight do? Can photographs be taken by artificial light with as short an exposure as half a second?

Acetylene gas can be used for studio illumination. Some time since we printed a short account of the installations as arranged by Messrs. the Thorne and Hoddle Acetylene Co., Ltd., of 135, Victoria Street, Westminster. In these gridirons carrying from fourteen to twenty-five burners were arranged in tiers at some distance apart in a parabolic reflector painted dead white. With the larger of these installations using rapid plates and with a lens working at a large aperture it was stated that portraits could be taken in from three to five seconds. The reflector as used with daylight would be sufficient to light up the shadow side of the figure. Portraits and other photographs may be made in half a second or less by a magnesium flash lamp, but not by acetylene gas.

WORKING ON THE BACK OF THE NEGATIVE.

I have tried to use tissue paper on the backs of negatives, but find much trouble with it. The cut-out pieces tear away, and the edges show as hard lines in the print. Can you suggest something easier?

If the negative is printed from in a frame with a sheet of glass in front of it there will be no risk of the paper tearing, and if printing is done in diffused light the edges of the paper mask ought not to show. Much will depend upon the strength of the negative. When that is weak it may be necessary to turn the printing frame round from time to time to vignette off the edges. The old dodge of putting the printing frame on a board suspended by four strings and letting it revolve in the manner of a meat jack, as used with a cracked negative, will get over the trouble. When there are detached portions of the negative to be strengthened the back of it may be coated with matt varnish—plain, or coloured yellow, according to the contrast that has to be added. The varnish is scraped away from the parts where it is not wanted, and the edges may be softened by cross-hatching with the point of a needle.

PHOTOGRAPHING ARMOUR.

I want to photograph some suits of armour. Kindly give me any suggestions that would assist. What is the best speed of plate for such work? I thought of using photo-mechanical plates.

If the armour is highly polished, the difficulty will be to keep the contrasts within the limits of gradation of the paper on which the print is to be made. A rapid plate will be better than a photo-mechanical, but one of ordinary rapidity will serve well.

Every effort should be made to soften and diffuse the light, and at the same time to mass the lights and shadows to give roundness in the print. The best conditions are such as exist in a photographic studio. If the work has to be done in a room lit by windows of ordinary size, a screen, made by pasting together at the edges several sheets of fine tissue paper, and hung between the window and the armour, will do much to diffuse the light. A white reflector will probably be required to lighten up the dark side. The background should be of such a depth of tint as to throw up the object without contrasting too strongly with it.

If the work has to be done out of doors, screens must be used to control the light, otherwise the general effect will be flat, broken by light and dark patches, giving an irregular spotty effect. Powdered talc dusted lightly over the polished parts will assist in softening the glitter, but must be used with discretion.

MAKING A SELF-TONING PAPER.

Will you give me a formula for a self-toning printing out paper?

Most of the formulæ for self-toning papers that have appeared are from patent specifications. The following is a typical one patented by a M. Bauer, but closely resembles others that have been made public: A solution is made of forty-five grains of silver nitrate and forty-five minims of glycerine in one hundred and fifty minims of alcohol, and is added to four ounces of collodion containing three and a half per cent. of soluble pyroxyline. Another solution is made by taking gold chloride one grain, ammonia solution (containing twenty-six per cent. of ammonia gas) one minim, lithium chloride three grains; to this are added fifteen grains of citric acid in sixty minims of alcohol, and then fifteen minims of castor oil in sixty minims of alcohol. The two solutions are mixed, and the paper coated with the emulsion.

This is for a collodion emulsion; a gelatine emulsion can be made by substituting gelatine for the collodion and water for the alcohol. We have not tested the formula, and apart from the impropriety and risk of infringing a patent, it will be found more economical and more satisfactory in all ways to buy the paper than to prepare it.

ENLARGING BY ARTIFICIAL LIGHT.

In using lenses of, say, five and ten inches focal length respectively to enlarge the same negative to the same size, does the greater distance necessitated by the ten inch lens call for a corresponding increase in the exposure? Can you tell me approximately the relative actinic value of an incandescent mantle and an acetylene gas flame without a reflector, using a 00000 burner?

In enlarging by daylight, if the two lenses work at the same focal aperture, the exposures will be identical, and the same thing applies if in working by artificial light a condenser is not used. In enlarging with the lantern, when the lens of longer focus is used the illuminant must be brought closer to the condenser than with the shorter focus lens, and more light will then be gathered up and passed through the lens. The adjustment of the illuminant, however, will be through so short a distance that the increase in the light condensed will not be great, and for all practical purposes the exposure will remain the same.

M. Molteni gives the visual intensity of the incandescent gas mantle as 1, and that of one acetylene jet as 1.06. Sir W. Abney, however, states that the photographic power of the light emitted by the mantle is greater than that of the acetylene gas flame. In practice the two illuminants will be about equal, but much will depend upon the efficiency of the mantle and the pressure at which the acetylene gas is used. Both will be found to vary greatly.

NOTICE TO ENQUIRERS.

Answered by post: Enzyme, A. J. Martyn. Lindon Partridge, G. O. E , Studio, Clare Hignett, H. Smith, F. W. Broom, S. A. B., Competitor, Mrs. Dearborn, Nehemiah Hazlett, W. Wotherspoon, T. H., T. Cocker, J. Gillespie, W. Bowles, W. F., Henry Wood. Shoreham. F. Anderson. G. W. Wigglesworth, C. J , Apprentice, C. Arthur West, Grateful, C. W, Wright, Kachin, T. N. Muller, H. T. W. B , Constant Reader, Jas. King. Kings Lynn, William Hill, F. H. Cliffe, P. J. Lucas, S. G. J., W. J, Gregory, Clifford's Inn, B. Shervinton, R L. Antrobus, W T. Wilkinson, R. A. W., T. Butler, Bowes Park, Bi-gum, W. Spendlove, J R. Booth. P. T. T., Edinol, Disgusted, G. G Johnstone, Fogged Plate, E. R. T, Venner, W. H. M. Micholls. R. F. Jamieson, H. Davidson, J. C., Anastigmat, W. McLeod, E. Bennett, J. C. M., Flash-bag, S. E. Levi, Egremont, Rajar, J. Vining, Arc-light, W. Penny, N. P. K., Professional, F. Broughton, Edgware Road, J. O'Connor, Sulphide, W. J. Markham, C. Marshall, Mrs. P. Trick, P. O. P., David E. Featherstonhaugh, Raby. Nydia, Thos. Brand, J. S. Lewis, B. G., P. Lucas, R. S. Salmon, S. Kirby, Crux, W. P. Brantingham, H. S. Bastick, P. Underwood, H. E Murphy, Rev. W. S. Clarke, Una, H. James, T. S. Barnes, Kodak, C. J. Emeny, C. Bryant, E. Bramfitt, Wateringbury.

PHOTOGRAPHY, No. 789, Vol. XVI.

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NOTICE TO CORRESPONDENTS.

All letters, advertisements, etc., must reach the office on Friday morning to ensure being dealt with in the issue for the next week. In cases of great urgency, letters delivered up to the first post on Tuesday morning may be in time to receive attention, but this cannot be guaranteed.

Communications for the Editor should be addressed, The Editor of *Photography*, 3, St. Bride Street, London, E.C.

In all publishing matters, letters, orders, etc., should be addressed, ILIFFE & SONS LIMITED, 3, St. Bride Street, London, E.C.

Advertisement copy and orders, and these only, should be sent to the printing works. They should be addressed ILIFFE & SONS LIMITED, Coventry.

LEADER

The Art Critic and the Camera.

When the average art-critic talks about photography one can generally find food for mirth, if not for reflection, in his claims and contentions, in his obvious unfamiliarity with photographic process and progress, and in his mode of patronising the poor camera-man.

The gentleman who attends to art matters in *The Academy and Literature* has condescended to look at some reproductions of recent photographic work, and kindly remarks that some few of them are "of such a quality as to make it difficult to realise that they are productions of the lens." Surely this is no more difficult than to realise that the annual canvases at Burlington House are productions of the hog-hair brush.

He also voices a sort of resentful amazement at the use by photographers of such terms as "modelling" and "medium," these being reserved, apparently, for the exclusive use of painters and sculptors. He then proceeds to caution photographers against making themselves ridiculous by attempting to produce "nocturnes" and "symphonies," these being, presumably, the joint property of painters and musicians. Similarly, that blessed word "motif" belongs only to painters and musicians.

The critic raises an old and foolish cry when he remarks that "the camera has no soul." Of course it has not. Neither has the palette, nor the violin, nor the printing-press. But what of the painter, the musician, the poet? Does not the critic really mean to imply that the *photographer* has no soul? Or does he grant some rudimentary soul, some faint glimmer of taste and perception, some feeble striving after artistic expression, even to the photographer, and simply mean to declare that photographic processes are not capable of giving expression to artistic ideals?

The painter may gibe and the critic may jeer at photography, but the fact remains that photographic processes must be recognised as a means of graphic artistic expression; and a means, moreover, that is becoming rapidly more adequate, because more subservient to the controlling, intelligent manipulations of the user. Photography has made more progress in forty years than painting has in four thousand; but it has not yet reached finality, and it may yet rise to higher things than even its warmest advocates anticipate. Even now, with its many limitations and shortcomings, it is recognised by everyone who does not wear green glasses as a medium capable of expressing in a very striking manner many of Nature's moods and phases, and even of adequately presenting some of the poetry, sentiment, and tragedy of human life.

"The camera is not subtle," says the critic. Very good. But the man behind the camera may be subtle enough, and skilful enough withal, to produce a result that shall be in every respect a true work of art. Granted that the noblest creations of painters are greater than anything the photographer can achieve; it does not follow that the photographer should be denied the capacity or the power of being a true and expressive artist. Already he can and does produce impressive "nocturnes" and harmonious "symphonies," and will continue to do so in spite of the critic's strenuous denials of his ability to do anything of the kind.

Photography is not the highest form of art, any more than painting is. But it *is* art. To deny it is a mere affectation. Or is it only ignorance?

Spirit of the Times

THE "TABLOID" CASE. An action that has been occupying a good deal of time in the Chancery Division of the High Court of Justice recently before Mr. Justice Byrne is that of Burroughs, Wellcome, and Co., *v.* Thompson and Capper. In many respects this case was on parallel lines with that which occupied Mr. Justice Swinfen Eady earlier in the year in the matter of the word "Kodak." True, there is a considerable difference between the two, in that Kodak is a manufactured word pure and simple, conveying by its derivation or construction no indication whatever of the nature of the articles to which it applies, while "tabloid" certainly, has the appearance of having a similar root to "tablet," the meaning of which is well known. We cannot find space in our columns to give at any length the expert controversy that raged in the Courts over the question of the precise meaning which attached to the term "tabloid," and must content ourselves by observing that there was the customary divergence of view, and that in the end his lordship decided that the word "tabloid" was a manufactured word, "not really intelligibly describing the things sold when the word was manufactured," and granted an injunction against the defendants. They were required to pay damages and costs, and the costs of the Comptroller of Trade Marks.

* * *

FEDERAL PATENTS ACT

The federation of the Australian states into one Commonwealth will of necessity lead to the alteration of many previously existing laws. Not of the least importance are those relating to patents. The Federal Patents Act is not yet in operation, but as soon as the Commissioner is appointed it will be possible to deposit applications. Under the new Act, one application will cover the states of Victoria, New South Wales, Queensland, South Australia, Tasmania, and Western Australia. When the site for the capital and seat of the Government of the Commonwealth has been selected and the city built, the Patents Office will be located there. In the interval it will be in Melbourne, and all documents will have to be filed in it. As the duty of the examiner will be to report whether the invention is novel or not, and whether it has already been patented in one of the federated states, and as, in the case of an adverse report, the applicant may amend his specification and again submit it for approval, it would appear to be desirable for applicants to employ agents or attorneys resident in Melbourne to advise in case of difficulties arising out of the new regulations when they come into force.

* * *

THE EVOLUTION OF THE "INTERIOR" IN ART.

In antique art, and at the time of the Renaissance, landscapes and interiors of buildings were practically never seen in pictures except as backgrounds to the figures, or to accentuate their importance by the lines, colours, and contrasts introduced. It would seem that the possibilities in treatment of which such subjects were capable were in no way understood by the old masters. As far as realistic representation went, says the *Photographische Rundschau*, they did not get beyond fairly good perspective, and the monotony of the walls is at best only broken by a window. In the case of the Southern masters, the rooms were always small, to emphasise as much as possible the importance of the figures crowded into them. Occasional exceptions to this rule were painted under the direct influence of Holland. In such instances, the favourite method of using an open door, with a strong light beyond to give the impression of space, was adopted; yet, even then, the figures appear to be in front of instead of in the scene. Reform in this direction emanated from the North, where the people spent much of their life indoors, and, as time went on, the figures painted were smaller and the rooms larger, the proportions and composition becoming gradually more and more in accordance with modern ideas. The open door was more frequently employed, but, in some of the earlier instances the figures do not appear quite at ease in their surroundings. In the course of a century and a half a great difference took place, and pictures became representations of everyday life. In the works of the Dutch masters we find everything simple and natural, yet it was hundreds of years before artists arrived at the point at which they saw and painted indoor life as it existed, and in the style which now appeals most strongly to us.

MESSRS. RAE BROS., photographic dealers, of 134, St. Vincent Street, Glasgow, have added another branch to their business at 38, Hamilton Street, Greenock. A dark room has been provided, and a complete stock of photographic and lantern goods is kept.

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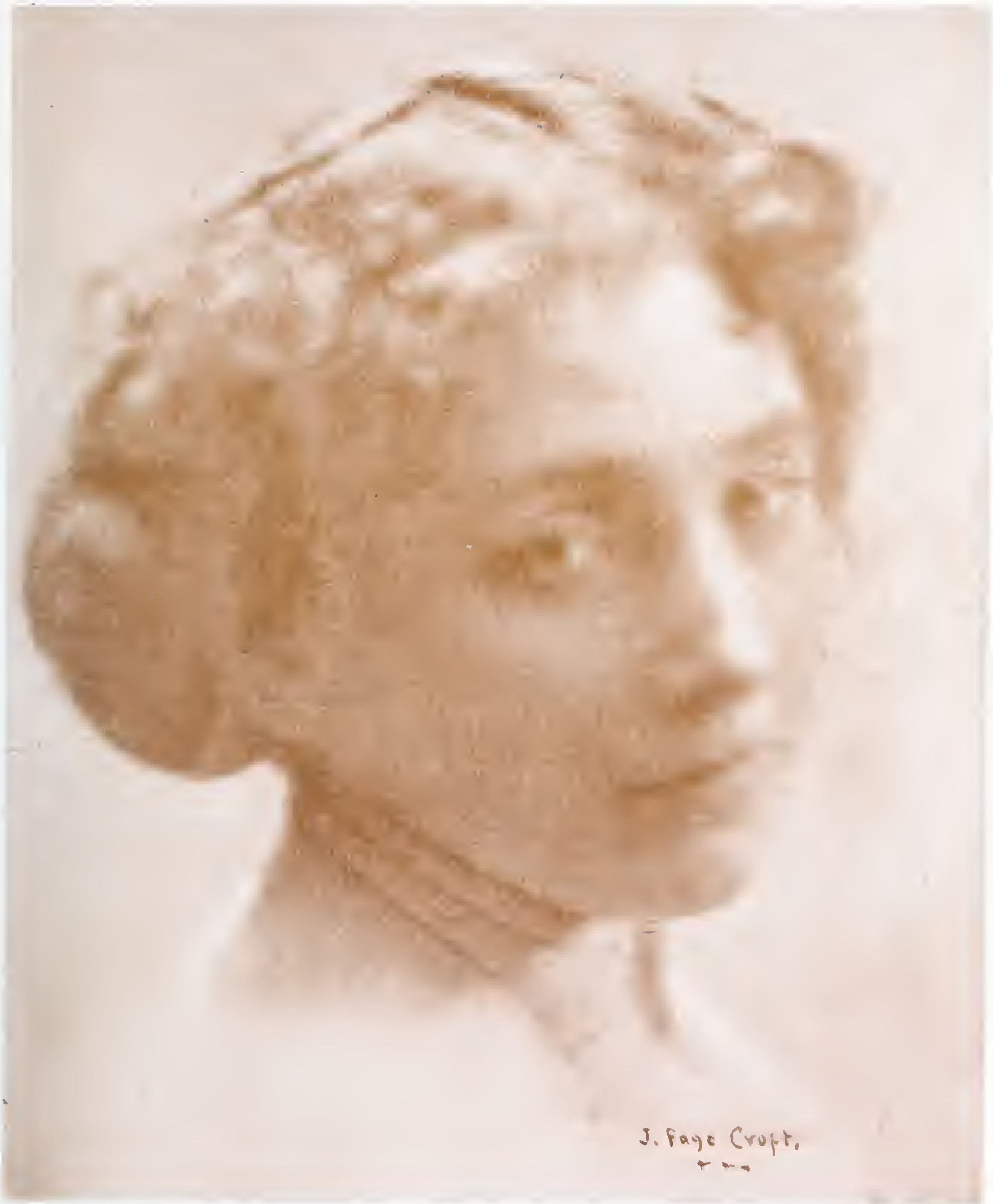
THE ANNUAL MEETING of the Ilford Photographic Society was held on Monday, the 7th inst., when the following officers were elected: President, Mr. W. N. Beal; vice-presidents, Messrs. F. J. Brand, E. R. Fyson, W. A. Locks, W. Martin, A. R. Mann, Barnes, D. S. Whitelaw, G. V. Haslam, Rev. J. Eisdell, and W. J. Whorewood; committee, Messrs. Aldous, Fole, C. G. Jones, Hull, Rotherham, Perritt, Radford, and Williams; honorary lanternist, W. Hornby; honorary secretary and treasurer, E. Human; honorary assistant secretary, Mrs. E. Human.

FORTHCOMING EXHIBITIONS

SOCIETY	OPENS.	ENTRIES CLOSE.	SECRETARY.
Wishaw and District	December 30	December 14	T. Peat, 75, Hill Street, Wishaw.
Liverpool A.P.S. (Slides)	—	January 30	E. Simnett, Percy Buildings, Eberle Street, Liverpool.
Sefton Park P.S.	January 5	—	H. E. Cubley, 3, Langdale Road, Liverpool.
Holmfirth P.S.	January 8	December 28	George Holdsworth, Dean Bridge, near Holmfirth.
Corn Exchange A.P.S.	January 13	December 31	J. H. Mitchener, 1, Seething Lane, E.C.
Burnley C.C.	January 21	—	B. Slater, Wood Nook, Burnley.
Affiliation Prints	—	January 23	The Secretary of each Affiliated Society.
Longton and District P.S.	February 10	January 25	T. Mottershead, 43, Stafford Street, Longton.
North West London P.S.	February 11	January 28	J. S. Fairfoull, 13, Addison Road, Walthamstow.
Scottish National	February 13	—	John B. Maclachlan, *Dundee Courier*, Blairgowrie.
Southend	February 19	February 10	A. J. Langridge, Aniwa, Westcliff-on-Sea.
Affiliation Lantern Slides	—	February 13	The Secretary of each Affiliated Society.
Birmingham P.S.	February 27	February 22	L. Lloyd, Hollies, Church Road, Moseley, Birmingham.
Cripplegate P.S.	February 29	February 12	G. H. Depledge, 17, Hazeldene Road, Goodmayes, Chadwell, Essex.
South London P.S.	March 5	February 20	W. C. Marshall, 41, Glendon Road, Lee, S.E.
Brechin P.A.	March 5	February 13	J. Kirk, 1, Infirmary Street, Brechin.
Nottingham C.C.	March 9	—	Arthur Black, 9, Bowers Avenue, Nottingham.
Brentford P.S.	March 15	March 3	F. H. Read, Clifden Road, Brentford.
Northern	March 25	March 11	C. F. Inston, 25, South John Street, Liverpool.
Cape Town P.S.	April 4	March 13	A. J. Fuller, P.O. Box 750, Cape Town.
Croydon C.C.	April 6	—	H. M. Bennett, Alipore, Duppas Hill, Croydon.



LYGIE. (“Pictures from the Two Exhibitions.” No. 63. See page 538.) BY J. PAGE CROFT.

LANTERN SLIDE MAKING

BY G. T. HARRIS.

CHAPTER VII.

Preparation of Gelatine Chloro-bromide Emulsion—Formula—Method of Mixing—Washing the Emulsion—The Drying Box—Preparing the Glass for Coating—Coating the Plates.

IN a previous chapter I have said that the preparation of a gelatine emulsion for lantern slides is one of the simplest of photographic operations when the routine of the process has been mastered. It is a fact that the preparation of an emulsion suitable for transparency purposes is far simpler than the making of a high-class slide upon plates coated from the emulsion, yet few photographers question their ability to produce the slide; though the number that have ever attempted to do so upon plates of their own manufacture is no doubt much smaller still.

The making of a lantern slide emulsion is a very different matter from preparing a highly sensitive negative emulsion, where coarseness of grain and fog dog one's steps at every turn. With a lantern emulsion boiling may be dispensed with, and owing to the acidity of the solutions, fog cannot possibly trouble the manipulator except by his own colossal carelessness. My belief that most lantern slide workers would find the pleasure and interest of slide making greatly increased if their plates were prepared by themselves must be my excuse to advanced emulsion workers if this chapter seems unnecessarily elementary.

The first batch of emulsion ever made by the writer was for lantern slides; it was a complete success, and the slides made from it are still among the finest gelatine slides I possess. This was fifteen years ago, and though I have made gallons of emulsion since then, this first ten ounces of my novitiate, made in a discarded marmalade pot, was as perfect in its way as any of them. This much for the encouragement of the timid. Should the practical minded enquire as to the cost, I may state that, omitting the question of labour, the price of plates for lantern size in my hands works out at about 3s. 6d. a gross.

The formula here given for the emulsion I have used for years is due to the late W. K. Burton; it gives slides of exquisite colour and clearness, and is most simple to make. Although Burton makes no mention of filtering the gelatine before emulsifying, nor of using distilled water in washing the emulsion, I find an unquestionable gain from both practices.

The gain is in clearness of high lights: slides on these plates almost equalling collodion in their absence from anything approaching deposit in their bare glass.

The quantities given will make about ten ounces of emulsion, coating a gross of plates:

A.	Nelson's No 1 gelatine ...	40	grains
	Ammonium bromide ...	125	,,
	Sodium chloride	25	,,
	Hydrochloric acid ...	3	minims
	Distilled water	5	ounces
B.	Silver nitrate (dry) ...	200	grains
C.	Drescher's gelatine ...	200	grains

The gelatine in A is soaked in the distilled water until soft, when the other ingredients may be added and the whole placed in a saucepan of water and heated to a temperature of 140° F. I find a pyro bottle well washed out a convenient vessel in which to perform this operation, as it stands the heat well. When the gelatine has melted, the temperature of the solution should be ascertained by means of a bath thermometer; if less than 140° F. the solution should be raised to that point.

Now comes the operation of emulsifying, which consists of adding the silver nitrate to the bromised gelatine, and this must be done in the dark room. The two hundred grains of silver nitrate, on a piece of clean paper, are taken in one hand, the bottle of hot bromised gelatine, minus the cork, in the other; the crystals of silver are slipped decisively from the paper into the bottle, the cork quickly replaced, and the contents vigorously shaken until all the crystals are dissolved, which may be judged by their ceasing to strike against the sides of the bottle. It is wise to continue shaking the bottle for some time after the crystals are judged to have dissolved.

On removing the cork from the bottle a creamy emulsion will now be found in place of the clear bromised gelatine. This is, of course, the sensitive combination resulting from the mixture of the bromide and chloride with silver nitrate, and it must always be remembered by the novice that the moment bromide and silver are mixed together the mixture becomes highly sensitive to any except the usual dark room light. If some of the emulsion just prepared be spread on a strip of glass and examined either by daylight or by a gas flame, it will be found of a deep ruby colour by transmitted light, and when a thin film of it is magnified by means of a focussing glass or low power magnifier, the granules of silver bromide will be found extremely minute. This indicates a satisfactory state of things, as fineness of grain and ruby colour are essentials in these emulsions.

The emulsion as it now is will be very slow, requiring an exposure in the camera, when reducing by daylight from a half-plate negative, of half a minute to three minutes according to the colour required. If greater rapidity is wanted, the emulsion may be poured into a small gallipot with a light-tight covering, put back into the saucepan, and the water kept at boiling point for five minutes.

I myself have never found it necessary to do this, and recommend the beginner in emulsion work to rest content with the rapidity obtained by simply mixing the solutions at a temperature of 140° F. After mixing the emulsion it may be left to cool down to about 70° F., and whilst this is taking place the gelatine C (which should have been placed to soak in several ounces of cold water at the time it was weighed out), after having as much of the water squeezed from it as possible, should be melted and filtered several times through cotton wool, cooled down to about 70° F., and thoroughly well mixed with the emulsion.

The emulsion now being completed, it requires to be left until thoroughly set before washing operations can be undertaken, and if it is convenient to defer this until the next evening the emulsion is simply set aside in a light-tight gallipot for twenty-four hours, when it will be in a splendidly firm condition for squeezing and washing.

Washing an emulsion is usually regarded with considerable abhorrence by amateur emulsionists, but if the plan I recommend be adopted it will be found a sufficiently simple operation. A piece of "scrim" about twelve inches square is procured, and the dressing thoroughly removed by washing in soda and water; a clean vessel, which may be an ordinary pie-dish or pudding-basin, holding about a pint, is filled with distilled water and the lump of well-set emulsion having been turned out of the jar and placed in the scrim is forced through its meshes into the water by continuously twisting the scrim round and round, the ball of emulsion being held in the water as the threads of emulsion are forced through the meshes. Leave the emulsion soaking for about fifteen minutes, then spread the scrim over a clean porcelain developing dish about whole-plate size, and pour into it the water and emulsion from the basin, fill the basin again with distilled water, carefully lift up the scrim supporting the emulsion, squeeze as much water as possible from the emulsion, *without exerting sufficient force to send the emulsion through*, however, and suspend the emulsion in the basin of water, carefully separating the threads of emulsion with the hand so that the water has free access. Give the emulsion three changes of water at intervals of, say, fifteen minutes, squeeze it once again into clean water, and collect on the scrim laid in the developing tray as previously described.

The emulsion may now be considered effectually washed; in fact, I have repeatedly tested the last water from emulsions washed in this manner and have never yet found an appreciable trace of bye-products present. As much water as possible must now be squeezed from the emulsion by twisting it up in the scrim and exerting a gentle pressure on the ball of the emulsion, which will force out the superfluous water without sending the emulsion through the meshes. Collect the emulsion in the gallipot with light-tight cover, and remelt it in a saucepan of hot water, taking care that no light can possibly reach the emulsion. When the emulsion is thoroughly remelted, add to it half an ounce of absolute alcohol and one grain of thymol or carbolic acid, though if the emulsion is to be used up at once the antiseptic is not required. Filter the emulsion whilst thoroughly hot through a tuft of cotton wool placed loosely in a funnel and it is ready for coating on to the plates.

The amateur plate-maker will probably find it more convenient to coat the exact size of plate he requires in preference to coating plates six and a half inches square and cutting them to size afterwards, though this latter method saves a considerable amount of work. A drying box of some description is a *sine quâ non* in emulsion work, and where lantern plates only are prepared it need be but of the simplest form.

I was assured, when taking up emulsion work years ago, that unless I could make it in quantities of a gallon or two and dry the plates in a properly constructed room with a system of hot water pipes and other luxuries, I had but a small chance of success, and though I have experienced the ease and comfort of working with such a plant when making considerable batches of large-sized plates, I have never found that the plates themselves were any better than could be prepared with the aid of home-made appliances and batches of emulsion as small as twenty ounces.

Having procured the drying-box, the final operation is that of coating the plates. When received from the dealer the glasses require thorough clearing previous to coating, and the simplest way of doing this is to rub them over while held in a plate vice with the following mixture:

Common whiting	2 ounces
Methylated spirit	2 ,,
Liquor ammonia	2 drams
Water	2 ounces

Apply with a tuft of soft rag or flannel, set aside until dry and polish off with clean linen dusters. For coating the plates, a small Japanese teapot answers admirably, and a piece of plate-glass, about twenty-four inches square, will be required upon which to place the plates when coated until set sufficiently firm to be reared upright and placed in the drying racks. This setting glass requires very accurate levelling by means of wooden wedges before coating is commenced. The emulsion having been melted and poured into the teapot, a plate is taken on a pneumatic holder, and a pool of emulsion about half the area of the plate is poured into the centre of it. This is quickly flowed to the upper and left-hand corners and returned to the pot by way of the lower left and right-hand corners.

If the emulsion is of the proper consistency, it should flow as easily as collodion, and the covering power of the emulsion being quite exceptional, the thinnest film only is required, consequently the bulk of the emulsion poured upon the plate is returned to the pot, the plate being quickly restored to a horizontal position and deposited upon the levelled slab to set. In cool weather, and with the emulsion properly prepared, the plates set firm in a few minutes, so that by the time a dozen have been coated the first are ready to place in the drying box, which may be one of the many that have been described at different times in these columns. Opening the box before the plates are dry is a mistake, as so doing causes variation in temperature and produces drying marks on the plates.

SNAP SHOTS

NEWS · NOTES FROM MANY SOURCES

IN THE AUSTIN-EDWARDS monthly film competition the prize camera for the current month has been awarded to Hugh Colebrook.

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A LECTURETTE COMPETITION was held by the South London Photographic Society on the 7th inst., when the judges, Messrs. W. Selfe and H. Lane, awarded bronze medals to Messrs. H. C. Beckett and F. E. Mills, and commended a lecturette by Mr. J. T. French.

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WE LEARN that Mr. Bullen has relinquished the managership of the Gem Dry Plate Co., Ltd., of 92, Villiers Road, Willesden Green, and that Mr. T. Thorne Baker is now in control of the chemical department of the works.

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THE FOLLOWING AWARDS were made in the photographic competition held in connection with the Ilford Presbyterian Church Bazaar on the 10th inst. Silver medal, W. Clayden; bronze, A. E. Burnett and J. Smith; commended, H. B. Pettitt and L. E. Whitfield.

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"PHOTOGRAPHY" PRIZE SLIDES were shown at the first meeting of the Taunton Photographic Society on the 9th inst., and were followed by others shown by the Rev. W. F. Reeder and Messrs. T. G. Loveday and Goldsworthy Crump. The honorary secretary is Mr. C. W. Stansell, of Haines Hill, Taunton.

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THE DEUTSCHER PHOTOGRAPHEN KALENDER for 1904, published by the *Deutscher Photographen Zeitung*, Weimar, at two marks (2s.), contains a mass of tabulated information useful to photographers, and, being printed on thin paper, occupies comparatively little space in the pocket. A prominent feature is the recipe section to which an index is appended.

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THE CHRISTMAS NUMBER of the *Weekly Press*, Christchurch, New Zealand, is a fine production, reflecting much credit upon the editor, Mr. Walter Burke. Photographs of the Maories in their native dresses, and of mountain and river scenery, are largely made use of. Stories, articles, and prints in colour, in the approved fashion of Christmas numbers, fill up the issue.

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IN REDUCING with ammonium persulphate, the negative should first be soaked in water and then in a very dilute solution of hydrochloric acid for five minutes, after which it should be washed for ten minutes. One to two grains of silver nitrate added to each ounce of a two and a half per cent. solution of the ammonium persulphate will ensure reduction starting at once and acting regularly.

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THE EXHIBITION of the Longton and District Photographic Society will be held from the 10th to the 13th of February, when the judges will be Messrs. J. B. B. Wellington and C. B. Keene. There are four open classes, one local class, and nine members' classes, in each of which silver and bronze medals are offered. Entries close on January 25th, and forms may be had from the honorary secretary, Mr. T. Mottershead, of 43, Stafford Street, Longton, Staffordshire.

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THE FIRST SCOTTISH NATIONAL PHOTOGRAPHIC SALON, promoted by the Scottish Photographic Federation, will be held at the Sandeman Art Gallery, Perth, from the 18th to the 27th of February. Exhibition is restricted to Scotsmen resident at home or abroad. The jury of selection will be composed of members of the Council of the Federation and no awards will be made. Entries close on February 4th. Entry forms can be obtained from the exhibition secretary, Mr. Alex. Mackenzie, 42, Scott Street, Perth.

IN CONSEQUENCE of the depressed state of the cotton trade, the Darwen Photographic Society, we are informed, will not hold the usual exhibition.

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AT THE BOWES PARK AND DISTRICT Photographic Society on the 7th inst., a competition of photographs of animal life was held, and the following awards made: First Mr. Hawes, second Mr. Young, and third Mr. Lawrence. A paper on cloud printing was then read by Mr. Craston.

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THE WELL-KNOWN Actien Gesellschaft fur Anlin-Fabrikation, of Berlin, have received the gold medal at the "International Exhibition for Photography and Graphic Arts," held at Mayence, 1903, for their Agfa developers, and also for Agfa specialities, and for Agfa Isolar plates and films, and have received official information that they are to receive the highest award, namely, the diploma of honour, for their exhibit at the "International Photographic Exhibition," held in St. Petersburg last spring.

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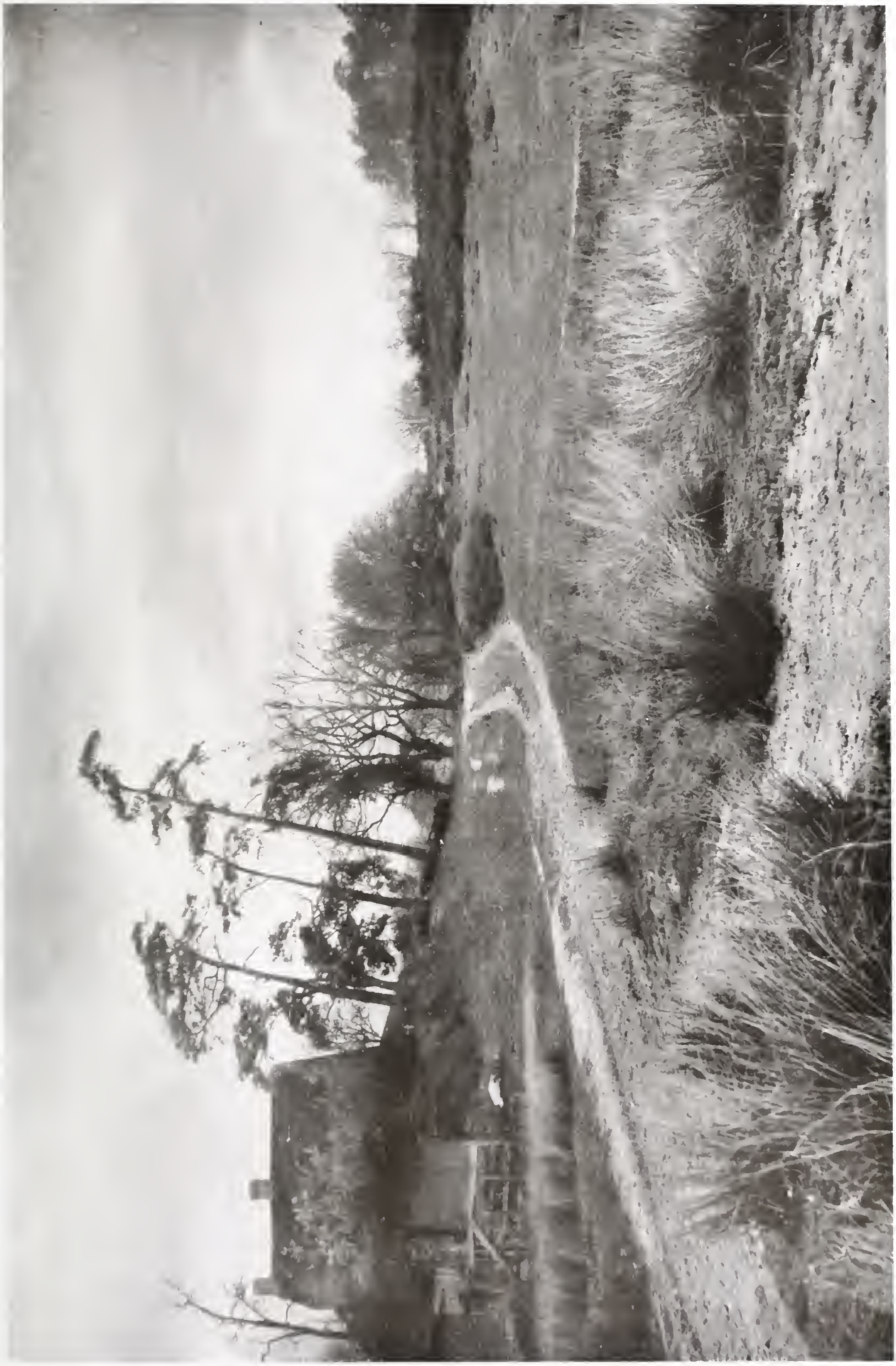
ENLARGING AT HOME without the use of expensive apparatus was the subject of a demonstration at the Ealing Photographic Society on the 3rd inst. by Mr. A. W. Green, of Messrs. J. J. Griffin and Sons. He said the most suitable negative was one which was clear, full of detail, and in which the general tendency was softness. When enlarging by artificial light, the negative may be even thinner so long as full detail is present. For daylight exposures, much more contrast in the negative is permissible, and a negative that is plucky without being harsh will produce good results. He showed and explained the method of using several of Messrs. Griffin's enlargers.

Penroses' Pictorial Annual.

FOR nine years past Messrs. Penrose and Co., of 109, Farringdon Road, have chronicled in their annual the high water mark reached in process work, and as each advance in one or other of the many processes has been made, examples of the work are included in the yearly volume. Articles by prominent workers upon the theoretical and practical sides of the art accompany the prints, with the result that not only is the series an epitome of progress made, but is a most valuable manual and book of reference for the student.

Prominence has been given in the present volume to the work being carried out at the various technical schools and institutions, and it is to the successful management of these schools that the editor of the annual looks for future development of the crafts. In justification of this belief we may call attention to the beautiful three-colour reproduction of a water-colour drawing of familiar flowers, the reproduction having been made by the evening students at the Polytechnic School of Photography. Very noteworthy is the paragraph in the introduction. "High as is the standard attained by process work, as evidenced by this year's annual, we do not consider it is by any means so high as it might be. The methods by which these processes are worked are by no means the most exact, nor the most careful, and process work is yet but a young industry, which has hardly yet shaken off the trammels of haphazard experiment and rule of thumb work, which must necessarily precede the settled conditions of sound practice based on good theory."

That this criticism is not uncalled for will be evident to all who carefully consider the prints and compare one with another. At the same time it will be noted that many of the faults at one time prevalent in process work are being eliminated. It is a book that none who are interested in process work can afford to dispense with. It may be obtained from our publishers, among other agents, price 3s. 6d., post free 4s.



ON WISLEY COMMON.

BY J. B. B. WELLINGTON

("*Pictures from the Two Exhibitions,*" No. 64, *see page* 538.)

A Short Walk in Gloucester Cathedral.

By F. H. Evans. Special to "Photography."

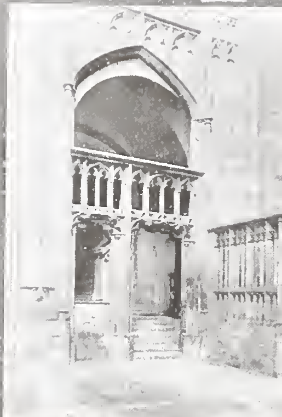
ONE of the most attractive ways of using architectural illustrations, when not specifically made as constructive or historical instances, is to take a short set of them in sequence, to arrange and show them as growths one from the other, as successive items in a walk through the building. Towards this pleasant end I would draw attention in these brief notes upon Gloucester Cathedral to the eleven illustrations accompanying them. They, of course, comprise but a small portion of the cathedral, viz., the North Transept, its approaches and exits, with the Choir Ambulatory reached from it.

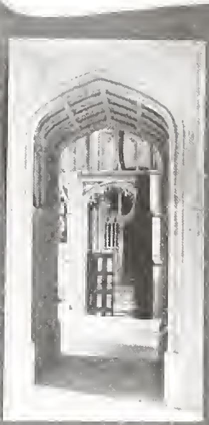
The first we will note is No. 4 on this page, the North Aisle of the nave; it shows on the right the enormous nave piers—early Norman, of the plainest order. The unique feature of the nave is these massive circular columns, and their great unbroken, unrelieved height: they are over 30ft. high, and that is about twice the height of the piers of a similar order at Norwich Cathedral. They have, as is seen, round or cushioned capitals, and their circumference is over 21ft.: they date from 1089 to 1100. The wall on the opposite—the north—side of the aisle is now very much out of the vertical, proving again the chief defect of the Normans as builders—their ignorance as to the value or of the making of a good foundation. At the end of the aisle is to be noticed the fine tracery of the Perpendicular period, which masks the top of the entrance to the transept. Through it is seen the delicate tracery of the transept itself, and the arch that admits to the Choir Ambulatory, as the passage round the outside of the choir is called in this cathedral.

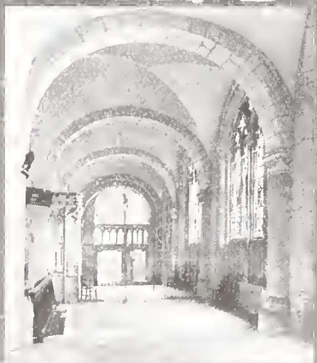
The illustration numbered 1 takes us directly up to this ambulatory arch and entrance. It will be observed that the period is Perpendicular, its date being 1368 to 1373. A curious feature is the naive way in which the old builders left the Norman arch in view. To have hidden it with their Perpendicular panelling, which entirely covers the Norman walls, would have brought their arch too low to suit their general effect, and they evidently preferred the plain, honest way of showing the fine Norman arch and merely adapting their equally fine Perpendicular arch to it as best it would go.

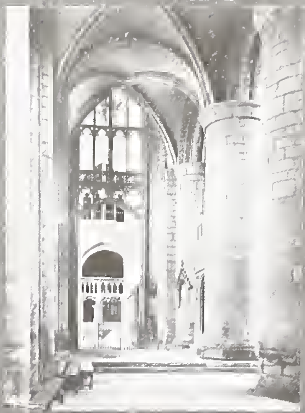
The steps lead directly up into the Choir Ambulatory. Through the smaller arch on the left of the steps can be seen a stone reading desk. A short distance further along the ambulatory is the famous tomb of Edward II., the king who was murdered at Berkeley Castle. When the body, by Abbot Thokey's fine stroke of policy, was brought to the cathedral for interment, great crowds of pilgrims were attracted, and it is said that their offerings at the shrine were so numerous and valuable as to have been sufficient to have built a new cathedral. As these pilgrims filed through the transept, up these steps, and on to the shrine, to pay their devotions and offerings, a monk stood at this reading desk and read prayers or discoursed to them.

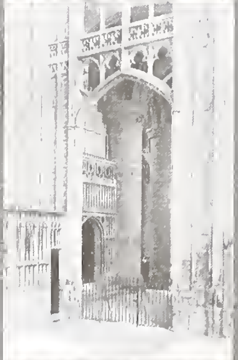
The beautiful proportions and details of this Perpendicular work are worth special attention: they have

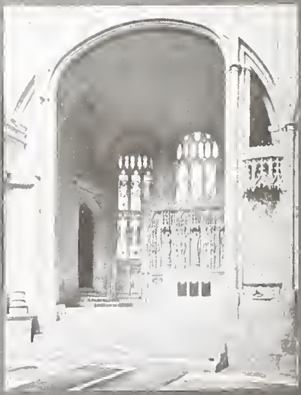


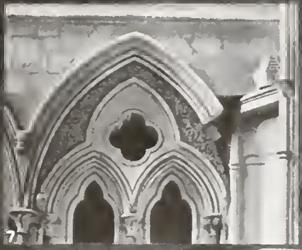












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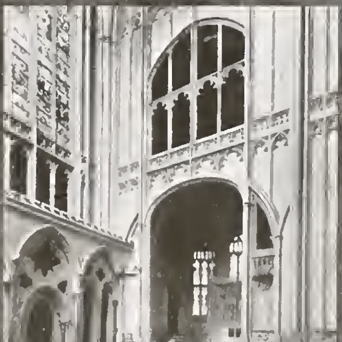

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combined in this instance into a composition of much dignity and grave beauty; indeed, the whole of this part of the cathedral abounds in beautiful and useful studies to the architectural photographer, and it is my own aim soon to prove how much more and better work it will yield than these early attempts of mine show.

From the same point of view that has given us the illustration just described, we get, by turning and looking towards the left, the view given as No. 10: this embraces the east and north sides of this most beautiful transept. The whole of the Norman work, the actual walls, was cased with fine Perpendicular stone panelling and tracery, in the years 1368 to 1373, under Abbot Horton. Though it is quite Early Perpendicular, it is very fully developed, angular mouldings of great beauty being used in place of the round mouldings of the still earlier work in the South Transept of the same period or style.

On the north side is seen a portion of a most beautiful piece of work of the Early English period, *circa* 1240. It is supposed to have been, and is now known as, a reliquary. It is in three divisions, that in the middle being a doorway. It abounds in very beautiful carving, heads, undercut foliage, etc., etc., and is worth the expenditure of many plates by students of fine detail. The arch in the corner shows an apparently damaged portion: this serves as an interesting crux in the dispute as to whether this so-called Reliquary was originally built here and left thus unfinished, or, as some think, was part of the Early English Lady Chapel of about 1247, brought here when that was destroyed and the existing and much larger Perpendicular Lady Chapel was built, in 1457 to 1499. In an architectural work, written in 1796, this Reliquary is described as "punishment cells!"

The illustration numbered 7 shows this arch in larger detail. The delicate band of undercut foliage running round it is seen to be most beautiful, both in design and workmanship. It will give a good idea of the fine detail abounding in this most precious piece of Early English work.

Recurring now to the previous view, we see on the east side of the transept a quite finely-designed opening, approached by a flight of steps. It is a chapel, dedicated to St. Paul, as this transept is also known as St. Paul's Aisle. The general design of this east wall with the opening into the half-domed chapel is most striking and beautiful: its proportions and its details go to make up as charming an architectural picture as one could wish to study with a camera.

The illustration numbered 6 shows this chapel in more detail, and the design of its roof can be more effectively seen in this larger showing. It will also help us in assigning a point of view for the succeeding illustration in this sequence, that numbered 5, where we look back from the top of the flight of steps towards the entrance gates of the transept from the Nave Aisle. The Perpendicular casing here again charms us, and yields an extremely delicate and beautiful effect. The stonework, both here and elsewhere in this cathedral, is very light in colour; and the very brilliant and light effect is greatly helped by the enormous windows that light the transept on both its west and north sides, so characteristic of the Perpendicular period—where oftentimes all appears made of glass, so little stone seems to enter into the composition of the walls. To avoid contrast and to aid in keeping this aerial effect as delicate as it mostly is to the eye, I chose a lighting that should keep the great nave piers, seen in the distance, as nearly as might be in the same key as the transept, so that a delicate harmony should be the keynote of the picture, rather than a strong contrast and over-accentuated brilliance.

This chapel of St. Paul serves us also as another vantage ground: a delightful point of view is to be had if, instead of looking due west as we have just done, we turn on our heel and look to the left, southwards, past the altar at

GLOUCESTER CATHEDRAL.

the back of the chapel, and through the arch that opens into the ambulatory. We then get the pleasant glimpse given in illustration No. 2. It looks across the Choir Ambulatory, through the entrance to the choir, and across to the South Ambulatory entrance. The Perpendicular arch, serving as a frame to the little view, is well planned, and in its comparative plainness serves as a good foil to the more elaborate work outside it.

A quite different effect is gained if, as on page 521, we step outside our last point of view, and look backwards into the chapel we have just looked from. It makes a fascinating effect of darks and lights, and affords a nice little experiment in dealing with strong contrasts.

If, having thus got into the ambulatory, we turn and walk along it, and look back westwards, we shall get No. 3. It makes a happier composition than if we had looked eastwards from where we stood; and it serves also to show how wise the Perpendicular builders were in not covering the Norman arch with their panelling in the transept, as we saw in No. 1. If they had done so, the Norman arch from the ambulatory where we now stand would have been quite spoilt, an ugly point coming below it and ruining the effect of the Norman arch and roof. The great weight of the triforium above this ambulatory is evidenced here by the settlement of the roof, destroying the roundness of the arch, though this effect is far more evident in the South Ambulatory than it is here. The windows are, of course, Perpendicular in period, and they have been inserted with good effect from the interior, but on the outside they are very unsightly, the round arch having been cut away. The position of King Edward's tomb is shown in this view behind the heavy oak railing that stands against the Norman piers.

Our next illustration, No. 9, gives us a view of this tomb, with the oak railing removed for the purpose—through the Dean's special kindness. It will be seen how ruthlessly the Norman piers have been cut into to make room for it. The heraldic devices on these piers are those of King Richard II. The lower part of the tomb is of Purbeck marble, exquisitely carved, the best executed work in the cathedral. The canopy above is of freestone, and the effigy is of alabaster, possibly the earliest of its kind in England. The superb canopy has suffered much at the hands of restorers.

The effigy, see illustration No. 8, is so personal as well as beautiful, as to suggest some attempt at portraiture, though it is a stronger type of face than one would have associated with this weakling of a king; but the freaks of restoration render it quite impossible to settle what might otherwise have been an interesting question. The face, however, remains an extremely beautiful one, full of repose and dignity. It is best seen and enjoyed when the sun shines from the south right across to this tomb: it is then lit up in a very striking manner, and its beauty is enhanced to a degree one would not credit if it had been seen only in a more prosaic and dull or diffused light.

With this ends my present short sequence of views in this wonderful building: only adding that the notes must be regarded as the merest scissors and paste work, and the photographs were done very many years ago.

THE BOROUGH POLYTECHNIC PHOTOGRAPHIC SOCIETY'S EXHIBITION of members' work will be held from Dec. 28th to Jan. 2nd, admission free. New dark rooms, etc., are being constructed for the use of the members.

× × × ×

THE THIRD EXHIBITION of the Blayden and District Camera Club was held on the 9th inst., when the judge, Dr. J. W. Smith, made the following awards. Federation Class: Silver, Arthur Payne; bronze, Roger Duff; certificate, W. J. Routledge. Members' Class I.: Bronze, W. Steele; certificates, J. W. Dodds and R. Cubey. Class II.: Bronze, W. A. Bagnall; certificates, E. Baty and T. Potts.

PICTURES FROM THE TWO EXHIBITIONS

THE ROYAL PHOTOGRAPHIC SOCIETY & THE SALON.

The pictures which, by the courtesy of the exhibitors, we reproduce this week are:

60.—The Foreman. By John H. Gash, 115, Albion Street, Leeds. (No. 133 R.P.S., 14in. x 10½in., 25s.)

61.—On the Derwent. By J. P. W. Goodwin, Marston Cottage, Woodford Green, Essex. (No. 297 R.P.S., 14in. x 11in., 25s.)

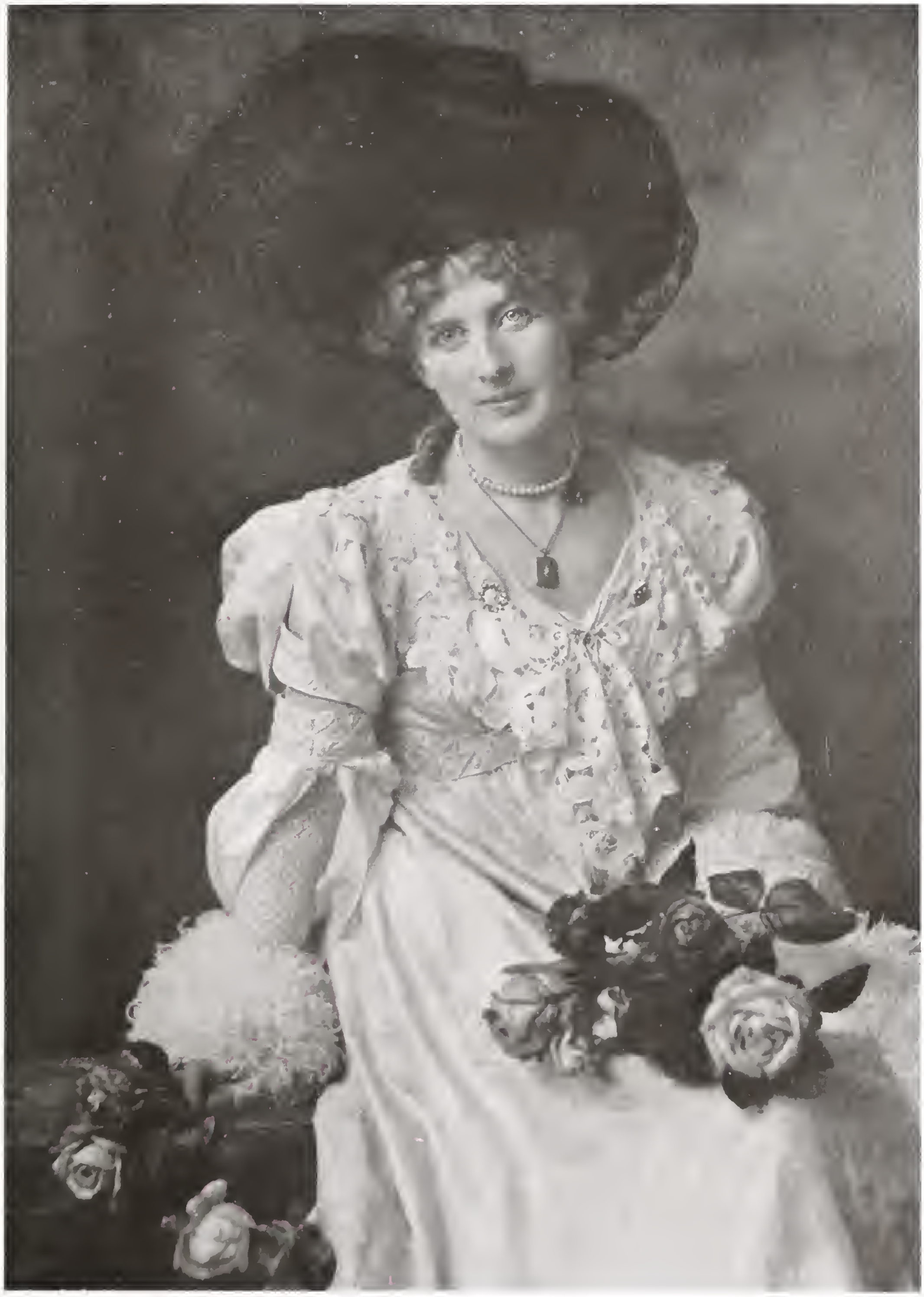
62.—Ploughing in Tuscany. By Alex. Keighley, Steeton High Hall, near Keighley. (No. 120 Salon, £4 4s.)

63.—Lygie. By J. Page Croft, Belmont, Wake Green Road, Birmingham. (No. 195 Salon, £1 5s.)

64.—On Wisley Common. By J. B. B. Wellington, The Leys, Elstree, Herts. (No. 195 R.P.S., Invitation Section.)

65.—English Roses. By Charles Sweet, Rothesay. (No. 263 R.P.S., 30s.)

With this week's issue we close the series of pictures from the two Exhibitions; but cannot do so without again expressing our indebtedness to those ladies and gentlemen who have assisted with the loan of their work to make the collection representative and complete.



ENGLISH ROSES. (*"Pictures from the Two Exhibitions," No. 65. See page 338.*) BY CHARLES SWEET.

"The time has come, the Walrus said, to talk of many things."

THE Paris police, I note, are taking a new step. Not satisfied with their usual anthropometricalisation of their prisoners, they intend to make radiographical records of them also. Thus a well-known and amply recorded criminal may disguise himself by grafting new skin on his finger tips, altering the plan of his nose by means of a clip, and swapping ears with a comrade, and yet after all be identified under the X rays on account of a warped fifth rib or a slight malformation of the os coccyx.

* * *

The Reading police, again, are busy selling tickets for two lantern shows, the proceeds whereof are to be devoted to providing dumb-bells (not area belles) and developers (Sandow's, not Burroughs and Wellcome's) for the benefit of the force. Now, this places the Reading residents in a most delicate and embarrassing position. Should a man decline to purchase a ticket for the show he thereby incurs the displeasure of one whom he may be only too glad one day to be able to propitiate. On the other hand, should he decide to buy a ticket, he is providing the sinews of war for developing other sinews, which may one night powerfully direct his involuntary sinuous course to the police station. It is a knotty problem for Reading. In fact, it takes the biscuit.

* * *

It is reported that the police in another district have abandoned their custom of sending for a professional photographer when they require a prisoner photographed. They now do the job themselves. They first take their prisoner, and then they take him. Thus is the terror of the truncheon far outweighed.

* * *

When the constables have frogs-marched their victim to the station and triced him up before the camera, do they request him to look pleasant?

* * *

"If you want any discovering done," wrote her Confessor to Isabella, "I can confidently recommend the bearer hereof, Mr. C. Columbus, who has given me every satisfaction with any work in that direction which I have given him to do." All this and more does that veracious historian, the late Mr. William Nye, record in his "History of the United States." The Confessor's protege must take a back seat now, for Mr. Winthrope Somerville, writing with unconscious humour, cannot spare time to do more than abuse Mr. Blake Smith and *Photography* in a breathless paragraph, as "I am very busy just now discovering a new tone—'a green one.'"

* * *

Has he tried those two conspicuously green salts, Winthropic chloride and bromide of Somerville for this purpose?

* * *

But, jesting aside, when I can spare a few moments from business and from "Piffle," there is nothing I like to do so much as to retire to my laboratory—it's a bathroom, but I call it a laboratory—and put in a few hours discovering. It passes the time, and passes it profitably; and by strict attention to business I find that I can get quite a lot of discovering done in an evening. So I quite sympathise with Mr. Somerville.

* * *

From Kentucky comes news of a tragic occurrence, which is thus reported in a local paper: "Some careless boy or girl threw an apple out of the windows of the photograph gallery while the high school was being taken Friday morning, and struck Elza Harnum just west of the drug store, inflicting a large bruise."

* * *

I am insufficiently acquainted with American anatomy to decide whether it would have been better or worse for the apple to have struck "Little Mary" instead of Elza Harnum's drug store. Further, I cannot imagine that the apple was thrown by a girl, because it evidently hit the mark. Neither can I believe that it was thrown in carelessness. A boy doesn't throw away an apple just for carelessness. No. He would have delighted to eat it, but preferred the pleasure of hearing the *plonk* as it struck Elza's drug store. The apple was by no means thrown away, although it was thrown. Reminds one of the man's advice to his herculean friend who was about to hurl an enemy from the gallery of the theatre, "Don't waste him, Bill; kill a fiddler with him!"

* * *

On one point, at any rate, I am whole-heartedly in favour of a policy of retaliation; to wit, when I have to listen to an ancient yarn I take sweet revenge by working it off on someone else at the first opportunity. In a slightly different form the following incident was narrated, it is said, by Aristophanes, a Greek satirist, who was wont to set the Athenian tables in a roar. No doubt he, in his turn, collared the tale from some prehistoric perisher to whom it had descended as a family heirloom. The latest version runs thus:

* * *

A mason who could not succeed in finding work saw an advertisement in which a photographer of the town stated that he required a man as general assistant. The mason promptly applied for the job, and seemed so eager to work that the photographer decided to overlook his utter inexperience of the business and give him a trial. The following dialogue ensued:

Mason: I should like to have some idea what my duties would be.

Photographer: Well, first of all you would have to come early in the morning, open the place, thoroughly clean up the studio and reception-room, and be ready at any moment to take work home to customers.

M.: Yes, I could do all that. What else?

P.: For two hours, morning and evening, you would walk about the principal streets with advertisement boards.

M.: M'yes; and what else?

P.: In the house there are all the windows to clean; also the boots, knives, and so on, and the greenhouse fire to be attended to.

M.: Oh, certainly; anything else?

P.: Well, you will have to take charge of the pony and trap, and three bicycles. When I have to walk any distance you must come with me to carry the apparatus.

M.: Delighted, I'm sure; *and* the next thing?

P.: There's the garden. Mustn't forget the garden. Have to keep that first class; pick caterpillars off the cabbages, scare birds off the——

M.: Excuse me; but has the garden a clay soil?

P.: I really can't say. Why?

M.: Well, I was thinking, sir, if it happened to be clay I might make you a few bricks in my spare time!

* * *

(Exeunt severally.) THE WALRUS.

SUBSCRIPTIONS.

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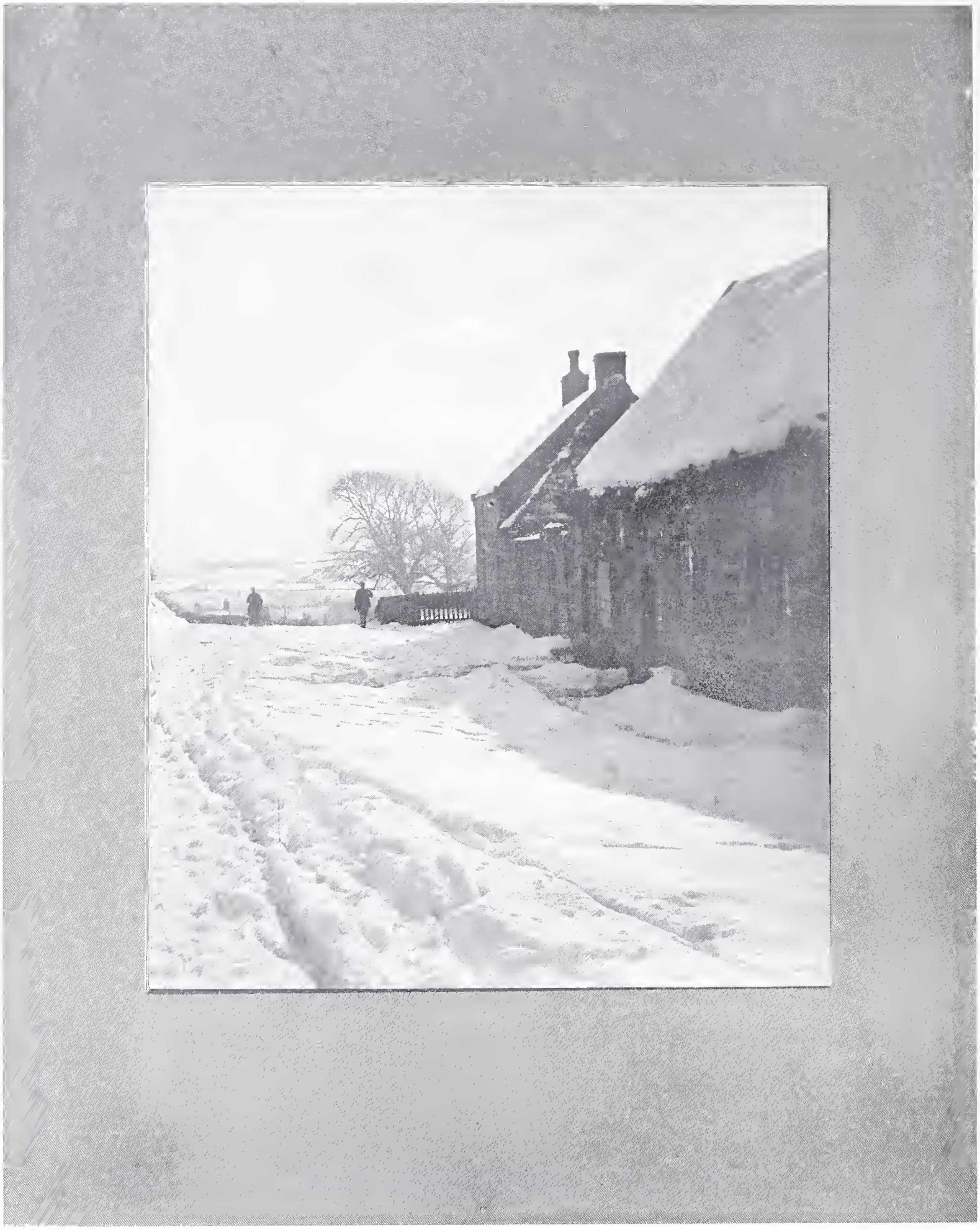

A MOORLAND VILLAGE. BY W. RAWLINGS.

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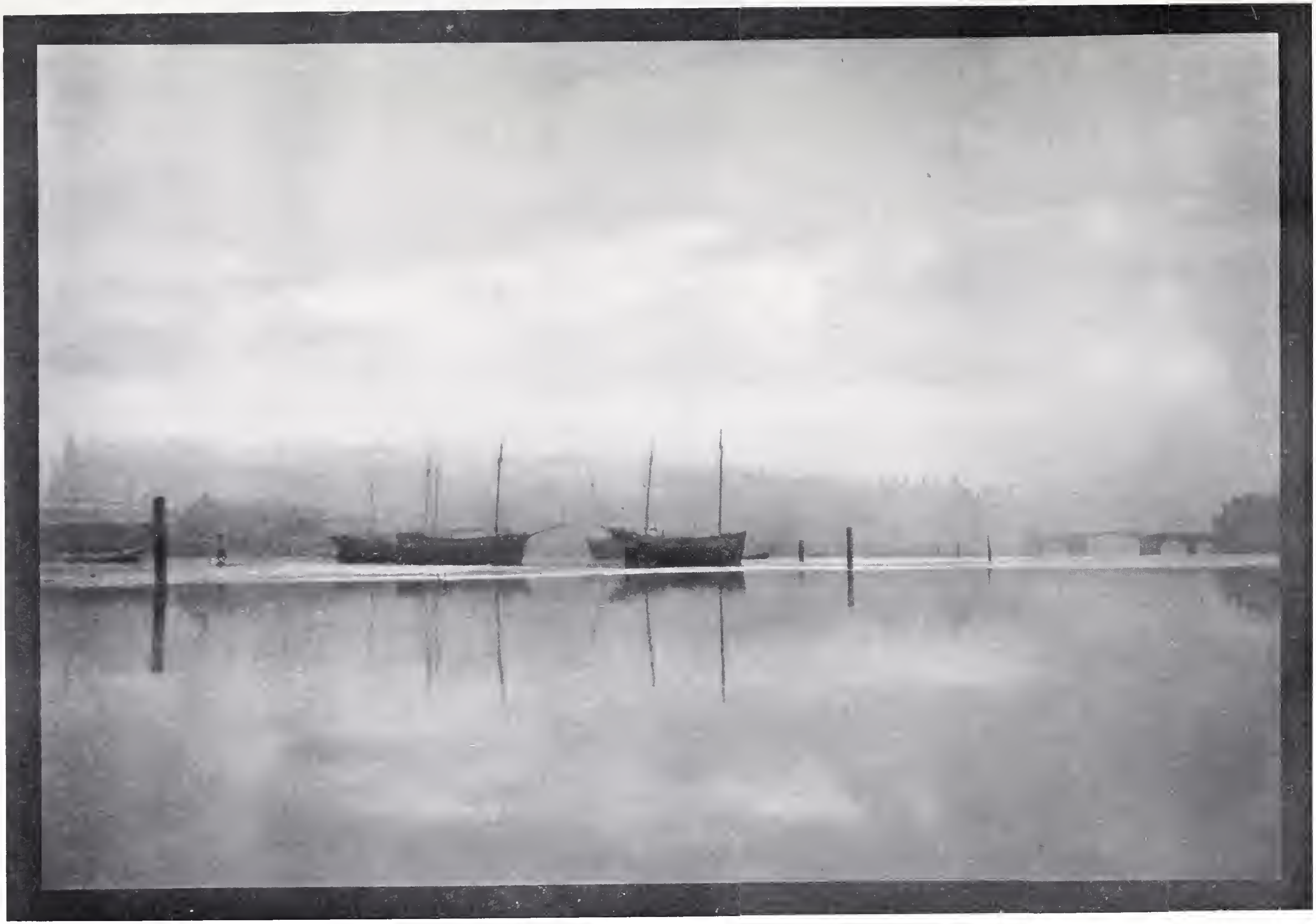

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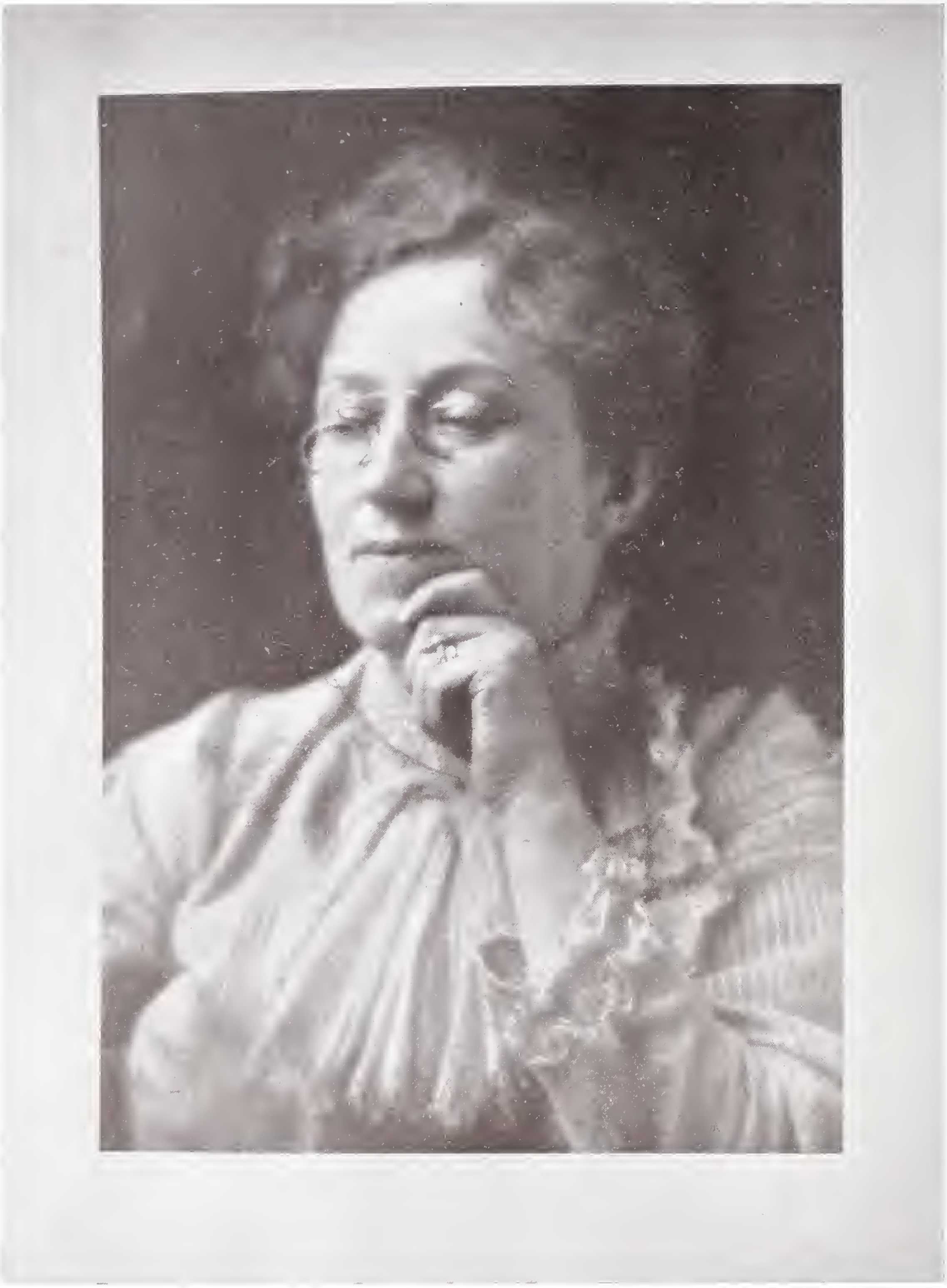

ARGARET ARMOUR. BY F. H. EVANS.

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THE CHARACTERISTIC USE OF THE HANDS IN PORTRAITVRE.

By Frederick H. Evans.

THOSE who have been specially observant of the character shown in hands and their owner's habitual use of them will understand how fascinating this element becomes in portraiture, and how hard a task it too often is to elicit from them anything really interesting. They will understand, too, how the few successes we can lay to our credit in obtaining really natural, characteristic, well-lit, well-drawn studies of hands as essential portions of our portraits, are more than counterbalanced by many failures.

If one has the good fortune to get a really finely modelled head, it is tempting to be content with that and with the bust, and not to risk the spoiling of a characteristic study by a faulty use or treatment of the hands. As a general thing, however, it will be found that they are better included if a life-like and reminiscent portrait is desired and sought after, since they give a more strongly personal interest to the study. Of course, with some sitters it is only a matter of deciding which pose out of very many will be the best to perpetuate, so helpful, so suggestive and resourceful are these occasional (*very* occasional) subjects.

One of my earliest attempts, and perhaps successes, was that (given on a later page) of the late Aubrey Beardsley, the well-known artist who died so young—one of the very rare specimens of absolute genius given to enliven this oftentimes very dull world of ours (especially on the photographic-portraiture side of it).

His wonderful hands fascinated me. I well remember, on the morning I was working at him, saying that I verily believed he could pose as *La Stryge* of Meryon's extraordinary etching, so "gargoyleish" did he sometimes look. At the word he framed his wonderful profile in his long, bony, sensitive, nervous-looking hands, with their beautifully shaped and delicately kept nails. There at once was my study, and a study any artist would be in ecstasies to have drawn or painted, though I was only too afraid my poor camera would not do it justice.

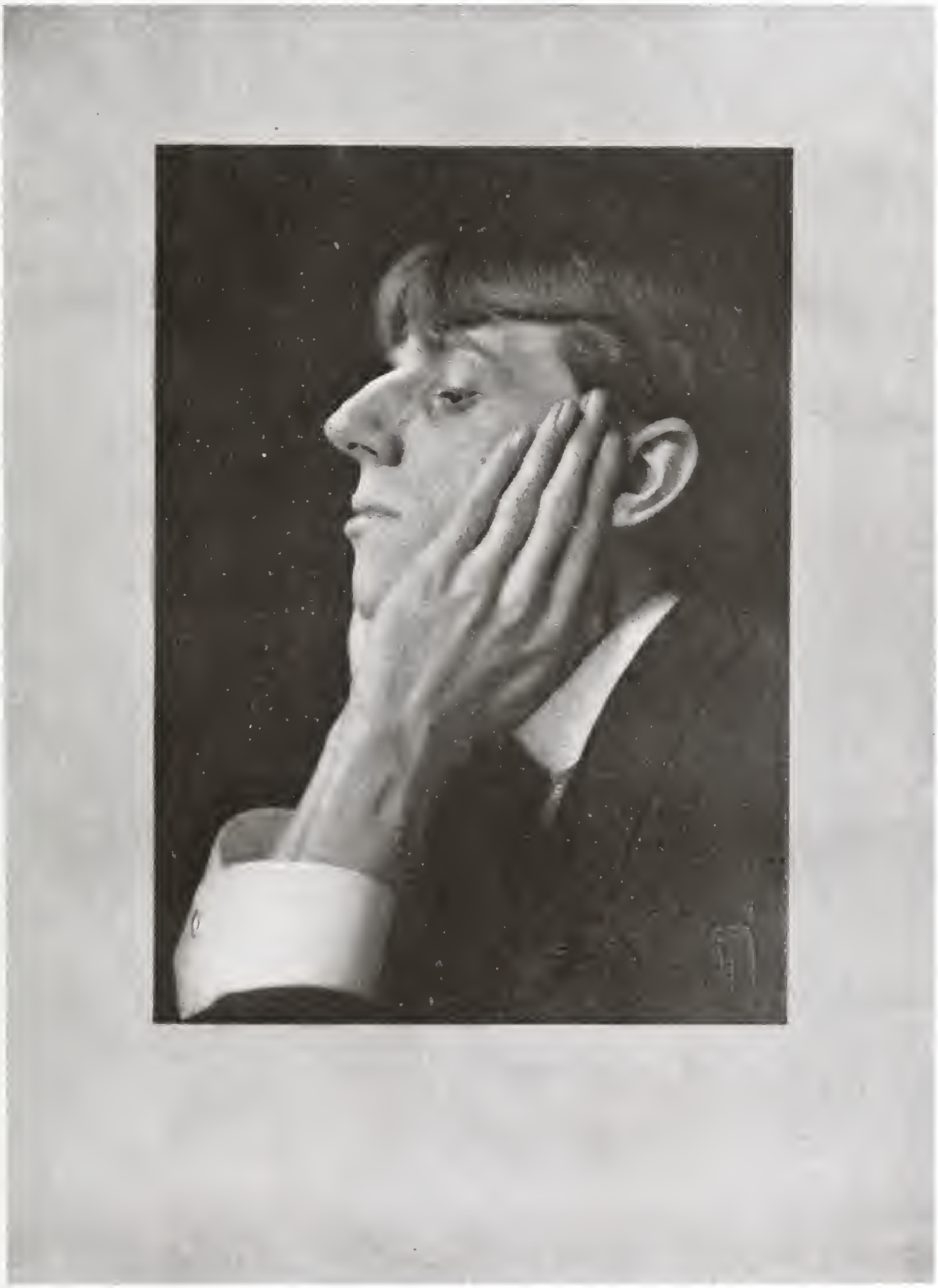
All I had to do was to correct those few minor details on which artistic success and completeness depend, and by inattention or obliviousness to which it may be so easily prejudiced or ruined. I had merely to draw the face sufficiently forward to get the line and shadow of the chin prominent enough : to push the cuffs back so as to minimise their too obvious mass and whiteness, and reveal the sinewy, lank wrist and forearm : to see that the camera was low enough to get the pupil of the eye well shown : to make sure that the nose and long eyelid were well modelled by the lighting ; and there was my picture ready for the fateful exposure.

Sometimes the hand affords the only means of getting anything natural or easy out of a sitter. For instance, the study facing page 7 was the last of many attempts—all comparative failures. The sitter was one of those charming people who are so anxious to be helpful that they overdo their part, and cannot bring themselves to our required condition of implicit, instant obedience ; and when you say, " Thanks, don't move, that's just the pose I'd like to secure," turn round and smilingly say, " I *beg* your pardon," destroying all the spontaneity and charm of the pose you had so long been eliciting by artful conversation and other tricks !

The hand held to the face is rarely easy or unforced. It is generally too obvious an aid to keeping the head steady, or it gives too much pressure on the face (and this must be carefully avoided, as generally it is more obvious and observable in the portrait than in the life), or it gets too dark or too light in tone. In the study in question, the flesh tones came just in the right key to harmonise with the general scheme of tones, and suggested a naturalness that was just what was needed to make a real likeness.

With the example facing page 8, the usual question arose, " How do you want me to sit ? " To my usual response, " Oh, just as you find most comfortable," the comfort and ease of the pose assumed by the sitter suggested the use of the clasped hands as a balance and finish. " After-dinner content," I felt inclined to dub it, and the suggestion of this to the sitter evoked the smile which carried out and perfected the idea. To emphasise this, a rich scheme of lighting was needed, with a very careful modelling of the facial contours. Happily, all came off fairly well, and the smile was maintained through the exposure. This, unfortunately, does not always happen in respect to a particular expression one wishes to perpetuate. At the words, " Steady now, please," all natural expression only too often dies right out, and an anxious rigidity takes its place, especially when, as in my own faulty place of work, I have so often to give long exposures of from fifteen to thirty or even forty seconds.

This question of length of exposure suggests the thought that the ideal studio would be where one could give the short second or two of the ordinary portrait studio, but without having as a necessary accompaniment the flat, tame, unlifelike lighting and modelling that are so associated with " the usual thing " in studio portraiture. And if not this colourless, vapid, lighting, it is but the other extreme one is pushed to, of a forced, over-contrasted, over-accentuated, unnatural lighting that one never associates with sitters in their ordinary aspect. It seems difficult to combine a really well-modelled, soft and rich, natural, accustomed lighting, with a short exposure, or at least one short enough to let us secure an expression that is as evanescent as it is characteristic ; but till this is made



AUBREY BEARDSLEY. BY F. H. EVANS

A PORTRAIT BY F. H. EVANS.

possible, sitters must be content to endure the fifteen to forty seconds often found necessary, even on a rapid plate at f/8 or f/11.

In the portrait of Bernard Shaw, I was fortunate in eliciting what I much wanted—the well-known pose naturally assumed by this very modern genius when he gets up to address a Fabian (or other) meeting. The display of spread fingers suggests only a natural, unforced, and characteristic use of them, unusual though perhaps it is : and, moreover, it affords a capital balance to the composition, the lines of which would otherwise be incomplete and lacking in sense of rest and poise. It may be accepted by those not personally knowing the author of " Man and Superman " as quite a lifelike and characteristic portrait.

One of the chief difficulties encountered in this work is to get sitters to understand that you really mean what you say when you exclaim, " Good, that's just what I want : don't move those hands at all, *please*, they are *just* right." The almost invariable result of this admonition is for the fingers to be unclasped or the hands to be wholly moved, so that the naturalness completely evaporates. For no pose is ever quite got a second time ; it is here as elsewhere, " the first fine careless rapture," etc., etc. Nature is too charmingly, as well as dully, various to allow of perfect repetition.

So far, with our natural egoism, we have confined our examples of the use of hands in characteristic portraiture to those of men ; but it must now be *place aux dames*, and I will venture to give some studies from the other, the more difficult sex—more difficult, that is, when anything strongly characteristic is sought after. For it is, indeed, a rare sitter amongst the better half of creation who does not expect, let alone demand, to be made to look prettier or more attractive than she knows she really is !

In some ways ladies' hands are more easy for photography than men's, being of a better colour and texture, more refined and delicate in shape, etc. This again, though, gives rise to difficulties, as the delicacy must be maintained with a proper regard to the flesh tones, the sense and feeling of flesh : and when portions of the hands are in shadow, this is not an easy task, flesh in shadow being an especially difficult study if the proper luminosity and roundness and texture are to be suggested.

One likes and tries hard to get away from the stereotyped use of a book or a fan, and it is therefore at times useful to get the sitter to handle or read the book only with a view to asking her suddenly to put it away, shut it up, do something else with it, and so see, by the grace of the sitter, what happens spontaneously.

In the study given facing page 10, the result of this suggestion was that the sitter put the book in her lap, clasped her knees with her hands, and so exactly helped out the idea already started by the pose of the head, that, namely, of thoughtful reminiscence, mental pondering over what had been read.

In the other example of the use of the book as an aid to the natural disposition of the hands, facing page 11, their present ease and spontaneity was only got after many such suggestions as, " No, do it all over again : shut the book and open it afresh : put both hands on it : it will happen all right presently." We see that it did so, and no elaborate handling and posing of the fingers by the artist could have done better than the natural action gave eventually.

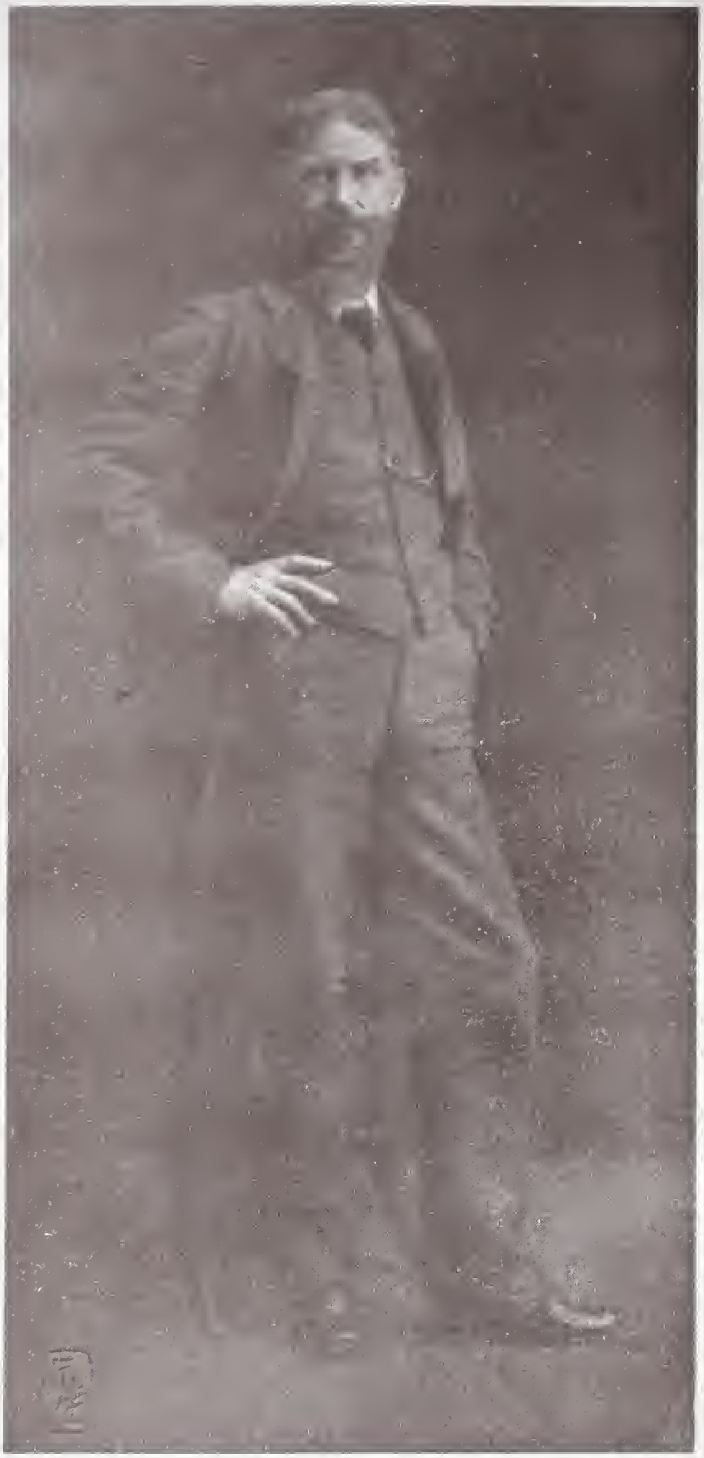
The putting of the hands to the face is not often easy or natural with ladies, though it is frequently a great aid with an unsteady model, and on occasion will prove just the attitude and use that will best demonstrate the sitter. The example given facing page 12 was a purely natural and spontaneous pose after my suggesting the steadying of the head by the hand, as the sitter proved restive under the long exposures needed that dull day. The lady is the well-known author, George Egerton, and I wanted to elicit a natural gesture of a sudden turn round to make a witty reply I had observed. But it seemed doomed to failure till this charming use of the hand was obtained; and as it quite delightfully and truthfully gave the alert, eager, interested air natural to the sitter, I was fairly well pleased by the success of the stratagem.

Our remaining study, facing page 3, is of a Scotch poet—a writer of charmingly lyrical verse—Margaret Armour; also a very variable sitter, difficult to catch in the revealing pose and keep in it long enough to secure it. The hand to the chin helped the thoughtful, preoccupied, contemplative air so suitable to the subject, and also proved the means of conquering the risk of movement during the long exposure required by the Dallmeyer-Bergheim lens in use.

This is also a good example of the very delightful modelling that is obtained by this admirable but difficult lens. Note the delicate accentuation of the lace edging just below the wrist, and the soft full contours of the hand and fingers. In a good light and with a long studio, this lens is as fascinating a tool as has ever been placed in the photographer's hands. This lens is *par excellence* the instrument for studies that are intended to be framed and hung up, viewed from the distance a painting would be. It gives such a delightfully full sense of roundness of image, of modelling, of lifelikeness. It is an interesting experiment to take a suitable subject by this and by an ordinary portrait or other rectilinear lens, and to treat both in the same way as regards hanging up and observing from a distance; the gain of the one over the other in *vraisemblance*, in the artistic qualities that appeal to the painter or draughtsman, is really surprising. It amply atones for all the difficulties the instrument imposes in the way of hazardous, uncertain focussing, slowness in exposure, length of camera and studio necessary, and so on, all of which hindrances, however, merely add to the fun and excitement—*if* a sitter can be found patient enough to wait on your leisurely experimenting.

The other examples given with this article were obtained with a Dallmeyer single landscape lens of 15in. focus, and of narrow angle, working at f/8 or f/11, as occasion required.

A PORTRAIT BY F. H. EVANS.



BERNARD SHAW.
BY F. H. EVANS.

My Friend Choggles

A REMINISCENCE

by "The Walrus"

POETS and other irresponsible cranks are fond of referring to men as being cast in moulds, like so many bricks. When they want to pay a man a particular compliment, they further declare that Nature afterwards broke the mould in which he was formed. One cannot help wishing that in some cases Nature had broken the mould first.

But such an uncharitable wish would never have entered the mind of anyone who knew my friend Choggles. He was a good sort. He was hall-marked 24-carat right through ; and the mould in which he was cast ought to be made a standard pattern. A tall, long-limbed fellow, Choggles. Clean-shaven, with a big good-humoured face, blue eyes, and a smile that was simply unique. He possessed the faculty of wearing his hat at a more desperate backward tilt than any other man on earth, and had ideas of his own in the matter of clothes and boots. Especially boots. He lived in the little market town of Oxham, a few miles from the popular seaside town of Brightcliff, where I was myself located.

I don't know whether Choggles was originally intended to have been born with a silver spoon in his mouth. The accommodation was there, but the spoon wasn't. But that small oversight was soon rectified. Choggles had an uncle. Not the imaginary rich uncle who dies opportunely in novels and melodrama, but a corporeally and financially substantial uncle who died in Australia and an apoplectic fit. After this uncle's lamented but beneficial demise, Choggles was enabled to follow in comfort and to his heart's content his one absorbing hobby—photography. To say that C. was an ardent photographer would be to put the case with ridiculous inadequacy. I could fill volumes with accounts of his researches, inventions, and experiments, but it is only possible here to note one or two of his milder and saner performances in these directions.

With Choggles, conventionality was something to be departed from ; difficulty, something to be overcome. In the bright lexicon of C. there was no such word as impossible. When any of his experiments absolutely and unmistakably failed, C. attributed it to the sheer obstinacy of the laws of Nature, and opined that it was high time those laws were made more subservient to human influence and control. Undoubtedly Choggles was a genius.

In the early days of our acquaintance he startled me once, after watching me in contemplative silence while I took a series of views of an old castle.

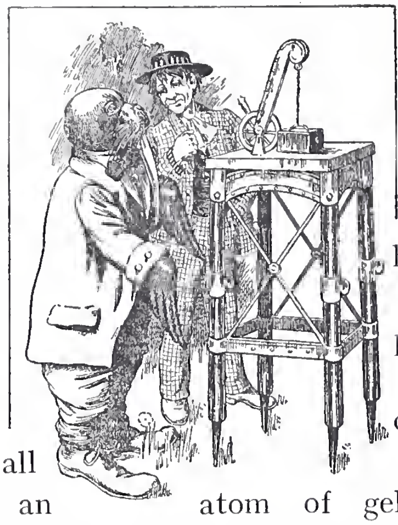
"Why a tripod?" asked Choggles.

"Well, I'm giving rather long exposures, you see, and I could not very well dispense with a stand."

"But why a tripod? Why not a quadripod, a pentipod, a hexapod, a ——"

"Oh, hang it all!" said I. "Why not a sprawling centipede if it comes to that? Three legs constitute the smallest number consistent with rigidity, and you don't want superfluous timber to haul about."

"I'd rather like to try a quadripod, though," said C., pensively.



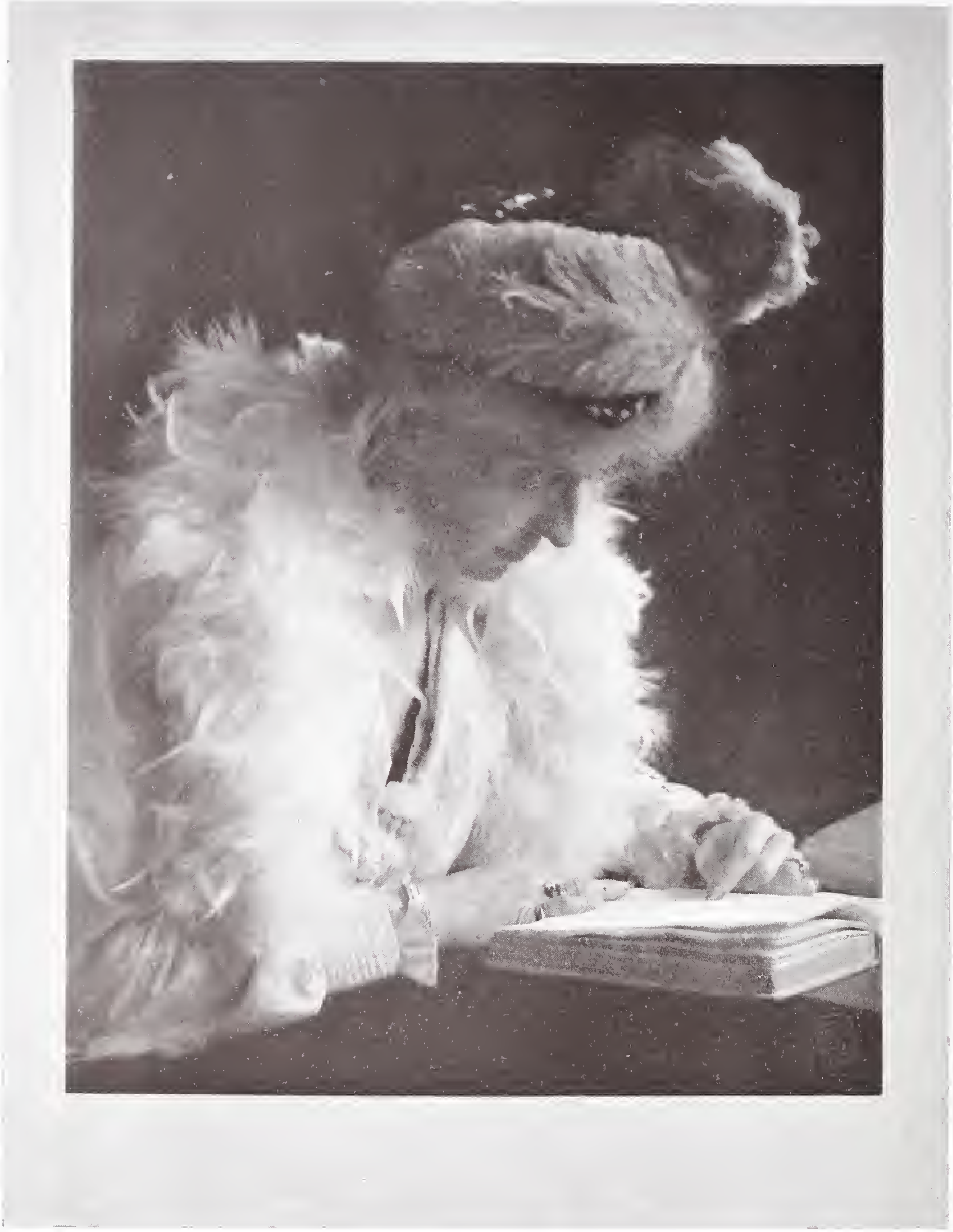
And he did. He constructed a four-legged stand with mighty struts and stays that took about ten minutes to erect and twenty to take down, and he used it to support a tiny pocket camera that would have been easily held aloft by a bulrush. The stand had one merit. It was firm. It would not have budged under the weight of an elephant. And it only weighed a hundredweight.

One of Choggles's greatest achievements was a high-pressure print-washer. He had got some curious notion of forcing water right through the prints, and made a machine for the purpose. He set it going one night; and by the morning it had transferred practically the whole contents of the local reservoir to the sea. Of all his batch of prints there was not a shred of paper or an atom of gelatine left; and Choggles argued therefrom that his machine was a brilliant success, as hypo in solution would stand no chance where even paper was washed clean away. This was reasonable. Which was more than could be said of his water bill that quarter.

One summer I saw nothing of Choggles for some weeks, and I suspected that he was possessed with a new notion. When I did come across him he was standing perfectly rigid on Brightcliff beach near a group of paddling youngsters. He was clad in a summer suit of rather pronounced design—a design based apparently on the forty-ninth proposition of Euclid. At one end he terminated in a pair of snowy shoes with scarlet laces; at the other in a fearsome top-hat of gigantic proportions and astounding shape.

As I approached him I noticed that his face wore that peculiar look of idiotic anxiety which appears on the countenance of an acrobat who is balancing his wife and family on his head.

He caught sight of me out of the tail of his eye, and as I came up he fiercely



A PORTRAIT BY F. H. EVANS.

ejaculated, "Stop!" I stopped. "What's up now?" I said. "Stand still, you idiot!" was his polite reply, if reply it could be called.

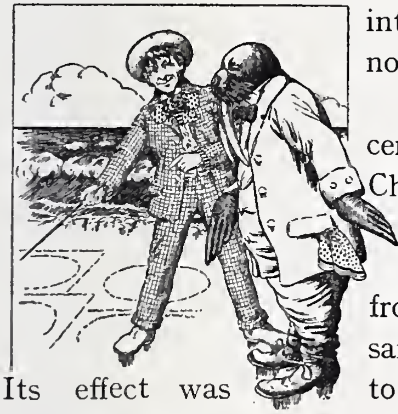
Then it was that I became aware of a peculiar whirring and clicking that proceeded from Choggles, for all the world as though he were a clockwork automaton. Then a little bell rang, like a typewriter caution. The whirring slowed down. The clicking ceased. The bell rang again. A pause. A snap. Silence.

And then Choggles tenderly lifted off his phenomenal "topper" with both hands, and there beamed forth as usual on his face the smile beautiful.

"Little notion of my own, dear boy. Secret kinematograph. All contained in a hat that even to the most observant observer looks simply like a—like a—— well, like a hat, of course. Didn't notice anything peculiar yourself, did you? Lots of kinematograph records are ruined by boobies walking up to look into the lens and grin. This stops them. Don't know there *is* a lens. Therefore, don't grin. Decently clever idea, isn't it?"

I said it was.

Never shall I forget a terrible afternoon I spent with C. on a quiet stretch of the beach, when, in trying to make clear to me his latest notion, he covered half an acre of sand with diagrams drawn with his stick. I remember how carefully we had to pick our way from diagram 179 to diagram 33 without walking over the intervening ones. I remember, too, how cross C. was (for him) when a rash intruding wave wiped out an algebraic formula he had not quite done with.



Whether it was due to this or not, I cannot say, but certain it is that somehow I was not quite convinced by Choggles's arguments. I understand, though, that his idea was that lenses should be so made that a battery of them could be arranged in a group on the camera front, and yet all plant the same identical image on the same identical spot. He called this "aberrated projection." Its effect was to be cumulative illumination of the dry plate; and he argued that when, owing to short exposures or bad light, one lens would project too feeble an image to be effective the rays projected by several lenses at once would do the trick. Incidentally, he solved the problem of projecting three identical images from three differently situated lenses for three-colour work. Merely a matter of lens calculation and grinding, he said it was.

Whether he was right or wrong, I will do Choggles the justice of recording that he worked hard over his demonstration. He wore a brand-new walking-stick down to the dimensions of a lead pencil, and he transformed the beach into the semblance of military entrenchments.

At another period, C. was enthusiastic over the neglected possibilities of photography in commerce. He pleaded eloquently for the decoration of all sorts of things with photographs.

"Frinstans," said he, fixing me with a glittering eye, "take eggs."

"I do, frequently," said I.

"I mean, take the case of eggs," said he.

“ That's rather a lot at once,” said I.

“ What I wish to know, when you have quite finished playing the ass,” pursued Choggles, “ is this—You make photographic papers with a surface known as egg-shell matte, don't you ? ”

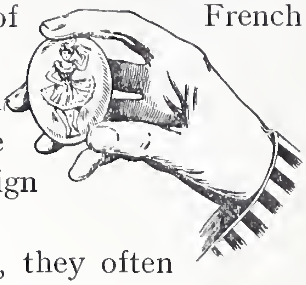
“ No, I don't,” I responded.

“ Well, others make them for you. And why ? ”

“ Not the ghost of an idea,” I truthfully observed.

“ Because,” said he, impressively, “ it is an ideal surface. Then why not use the real thing ? Why should not each of the millions of French eggs we import be decorated with a choice French view ? ”

“ Oh, come,” I solemnly interposed. “ You don't mean to say you approve of imported eggs. Why not emulate the glorious example of your forefathers who scorned the foreign yolk ? ”



When things reached this stage between us—as, indeed, they often did—Choggles invariably would give a gesture of comic despair ; and having abandoned me as hopeless would tilt his hat back in a way that made mincemeat of the laws of gravitation. Then his mobile face would be wreathed in a comprehensive smile, and become, as it were, the face of a gargoyle, with a strong suggestion of an early Victorian design for a door-knocker.

There stood at this time on the promenade at Brightcliff a camera obscura, where, for the small charge of one penny, visitors could obtain what the old dame who kept it described as “ livin' pitchers in hall the beeyooterful tintses of naycher.” To my amazement, I discovered one day that Choggles had compounded with the old lady for the sole and uninterrupted use of the building for one hour every day, from ten till eleven.

His original design (most of his designs were decidedly original) had been, it appears, to discover some means by which he could render permanent the image on the paper screen—a process which he resolutely declined to consider as outside the bounds of possibility.

He had been diverted from his original idea, however, by a new, and, to him, momentous discovery.

This was nothing less than the fact that at a certain moment every day during the period of C.'s occupation of the camera obscura there used to pop round a distant corner a young lady. She was constructed very much on the same architectural lines as a jenny wren, and, of course, was nothing to do with Choggles whatever.

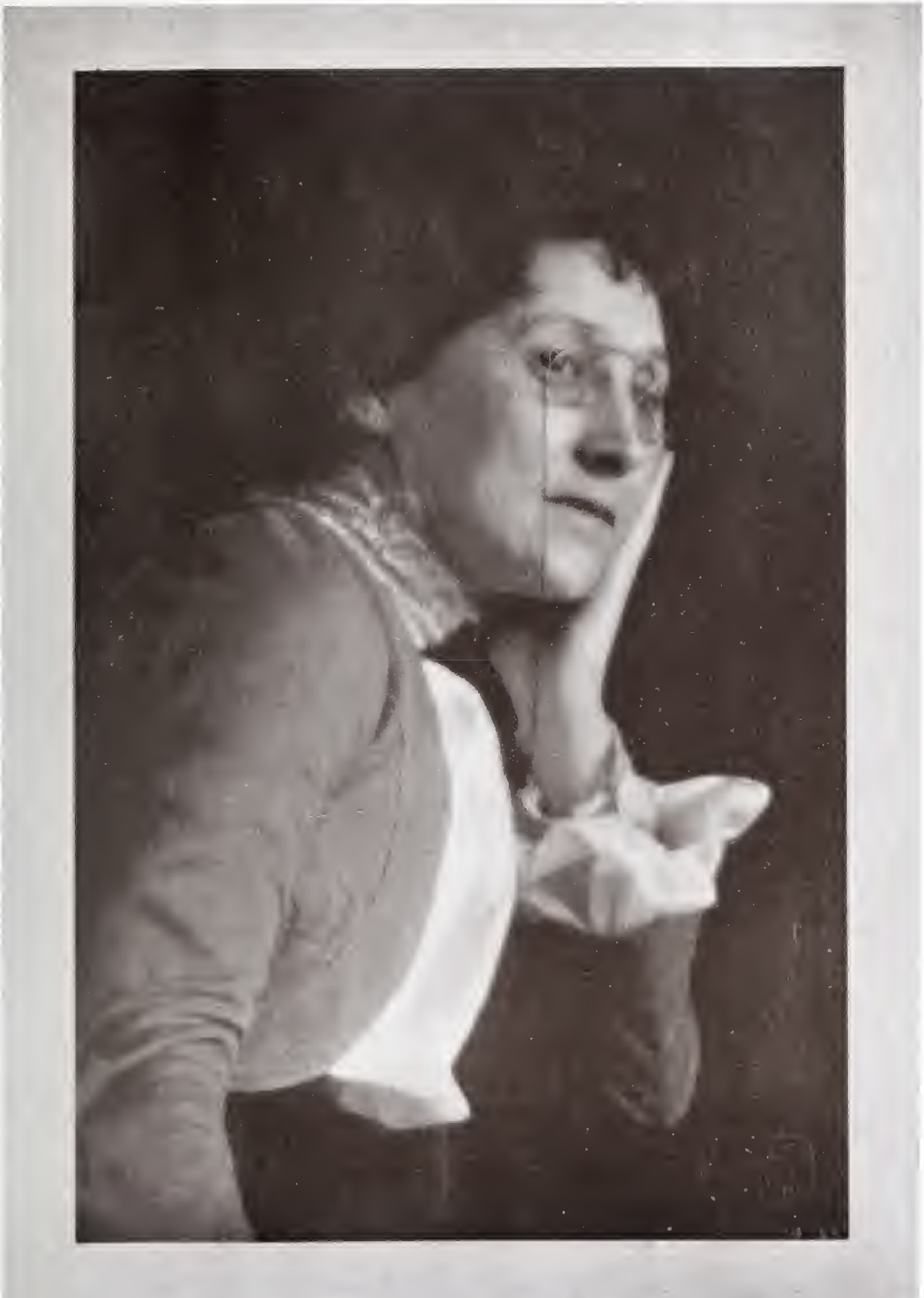
At least, not then.

But before long that gentleman had acquired the habit of turning the pictured screen slowly round to keep in view the little figure, which he followed with a look of idiotic devotion, until it had bobbed away into invisibility.

Then he used to walk accidentally out of the camera obscura just as she reached it.

Then he used to look at her.

Then she looked at him.



"GEORGE EGERTON." BY F. H. EVANS.

A SNOWBOUND HARBOUR. BY W. RAWLINGS.

And Choggles became a victim.

I found all this out by being invited into the camera one day by Choggles, who saw me coming, and pounced out on me. As we watched the screen he suddenly placed a tender finger on the brilliant picture of Jenny Wren as she appeared, murmuring as he did so—

"She was a vision of delight
When first she burst upon my sight."

"Dearest little girl in the world," he continued. "Excuse me." And he darted out; and I watched him as he overtook the lady, and with a brave sweep of his hat offered her an arm, the elbow whereof was on a level with Jenny Wren's tallest plume.

And I knew that Choggles was done for.

For two years thereafter I saw nothing of Choggles, for Fate led me on a kaleidoscopic journey round the world, and the endless succession of new and strange scenes rendered strangely unfamiliar to me the promenade at Brightcliff when I returned. Still more unfamiliar seemed the figure of dear old Choggles as he met me there one day. His clothes were of a more sober cut and hue, and he wore the conventional top-hat of respectability—a hat quite innocent of whirring machinery in its interior. Moreover, he had grown little fluffy side whiskers, and he carried a string bag bulging with a varied collection of parcels.

I had seen nothing quite like it in two hemispheres.

"Well, Choggles, old chap," I remarked, "and how's the vision of delight?'

"Haven't you heard?" enquired he.

"You don't mean to say she jilted you?"

"No, she married me."

"Dear, dear," I said. "Allow me to congratulate her. And what's the latest in photography? Anything new?"

"Hush," he said, "don't mention it. Of course, photography was all very well, but it was a bit of a bore, you know, so I gave it up. Fact is, I've got a new hobby. I'm learning the guitar. Most delightful instrument. I'm thinking of making an automatic one with a mechanical hand. By the way, you never heard of the last camera I made."

He paused a moment. His face glowed with the old smile. He tilted his hat right back. He threw the string bag on the pavement. He was transfigured. He was again the old Choggles of the quadripod days.

"Best thing I ever did, old chap. Took the picture, developed the plate, fixed it, washed it, dried it, and handed the negative out complete while you waited."

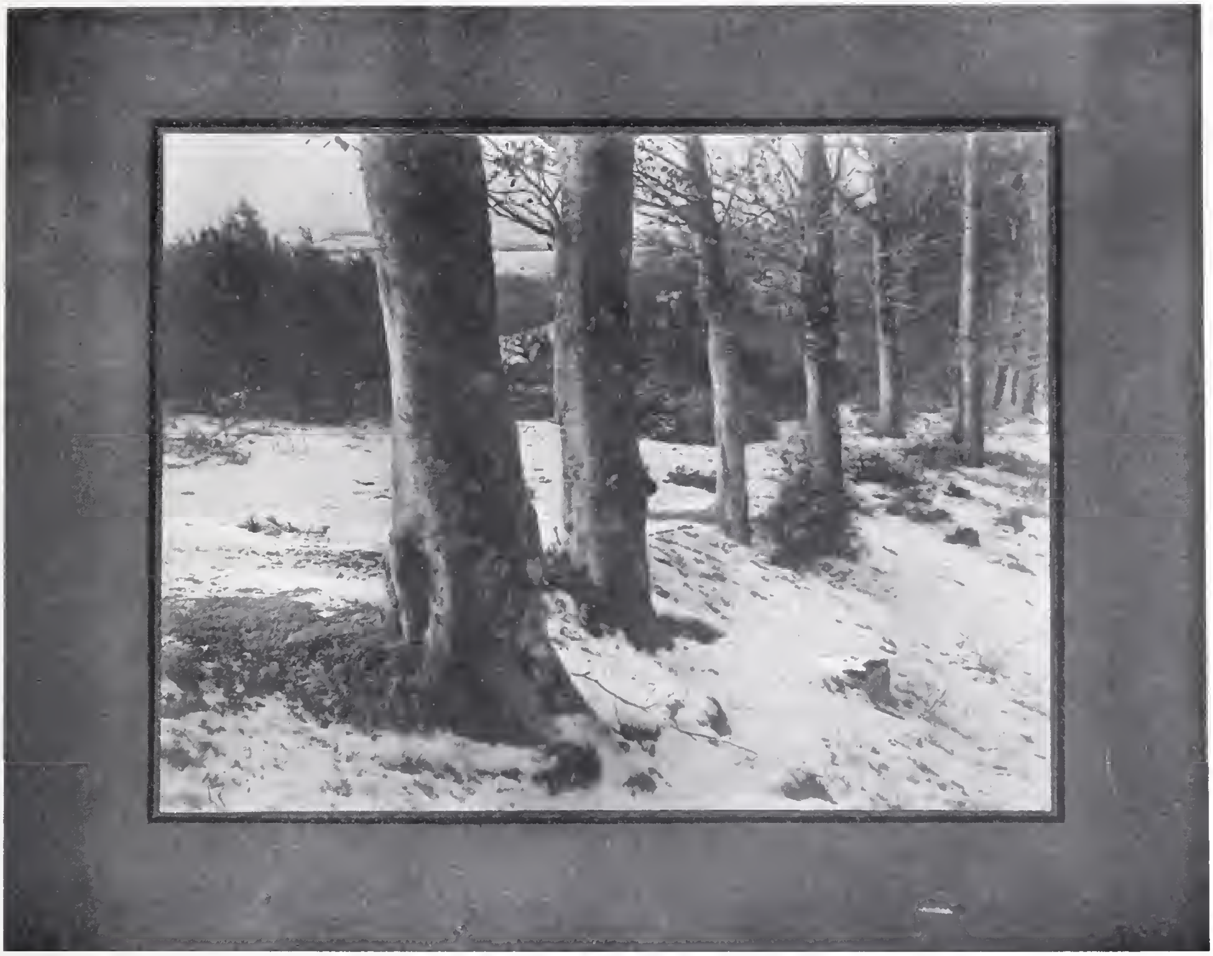
"Work all right?" I asked.

"Well," he said, "it didn't have a fair chance. Fact is, there was a methylated spirit bath for the plate, and there was a lamp to heat the air in the drying chamber, and I don't think they were properly separated. Blooming thing blew up!"

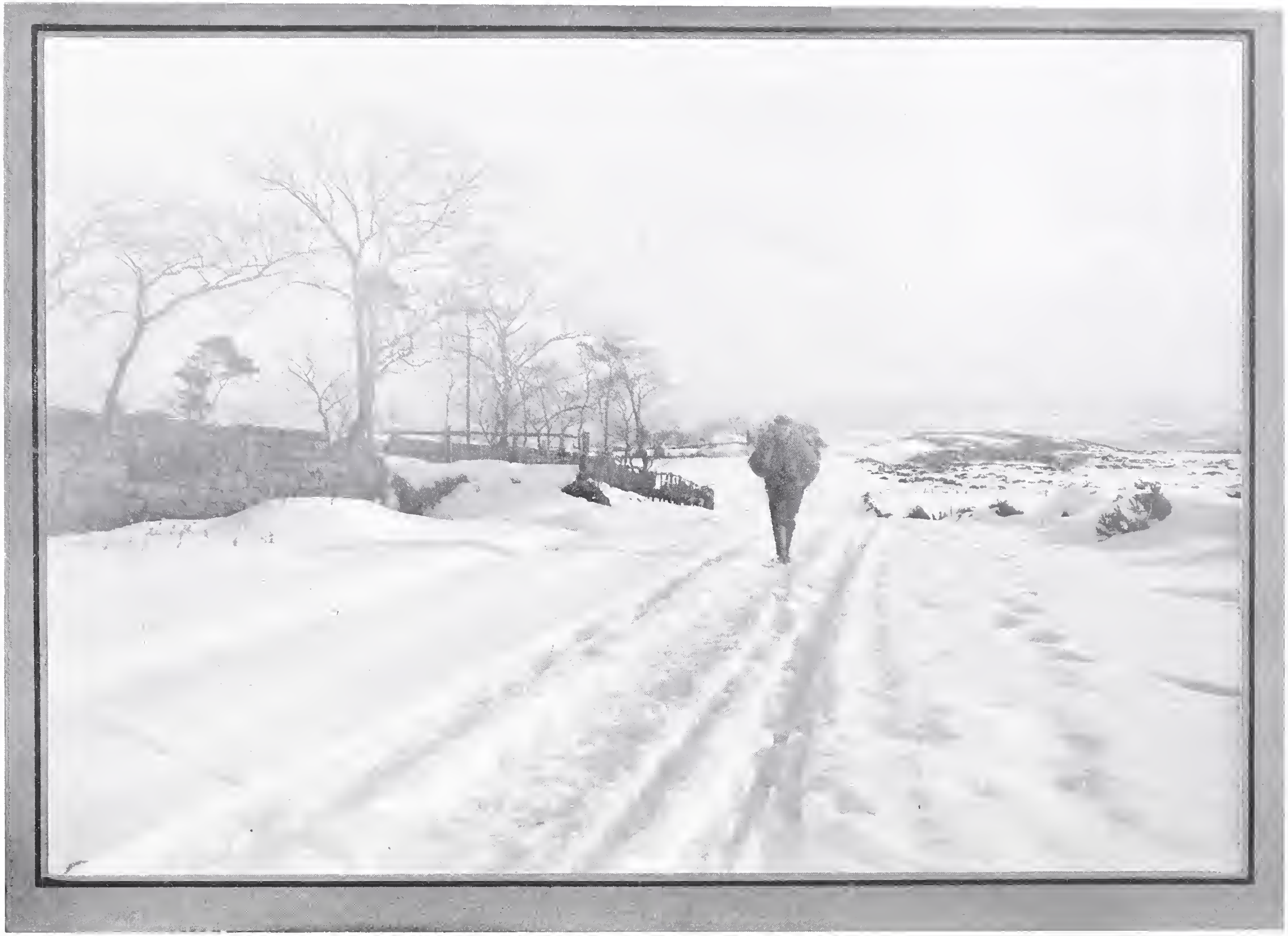
He chuckled contemplatively for a moment. Then with a quick movement he restored his hat to the perpendicular, swallowed his smile, grabbed the string bag, shook hands, and was off.

And for the life of me I couldn't forbear saying, as I watched him humping along :

" Alas, poor Choggles ! "



WINTER IN THE WOODS.
BY W. RAWLINGS.



SUN AND SNOW ON AISLABY MOOR. BY W. RAWLINGS.

Landscape in Pictorial Photography

BY "FECIT"

OF all branches of the fine arts, landscape, in its true sense, is the newest. It is new, not because it is a recent invention—for there are Ancient Greek landscapes—but because, although it has been a sort of trickling stream all through the earlier history of art, it has only within the last three centuries assumed any importance at all, and only in the last half century broadened out into a vast ocean inundating the whole domain of pictorial representation.

Photography for its own part has taken but a quarter of a century to arrive at its present point of progress. Landscape pictures have become possible now where previously studio preparations and long exposures rendered this branch of work a pastime mainly for enthusiastic amateurs possessed of time and money.

To-day everybody takes landscapes, or, at any rate, views in the open air, be they of town or country character, and so long as beginners continue to arise, anxious to engage in this absorbing pursuit, so long, it may be assumed, will help and guidance in the shape of example and precept be welcomed.

In the hope of offering something of both, the following pages are written. They do not, however, enter the domain of technique and execution. They concern themselves only with those elusive questions of art which never seem to have been thrashed out and done with, notwithstanding the full and able discussion they have so often provoked. For this reason, therefore, one more attempt may be allowed, if it deal with the same matters from the newest artistic standpoint—that of modern landscape and its possible manifestations by photography.

The reader should not expect, however, to find rocks in Horeb struck for him. Artistic discernment cannot be acquired at one blow. The faculty is rather one of those that have to be "picked up" in infinitesimal quantities. A man may attend a course of lectures at the Royal Academy of Arts, and remain unconscious of any accretion of artistic power after each one. But two or three years would probably find him possessed of a quantity of knowledge and judgment that he cannot remember acquiring. It comes, like increase of stature, with certainty, but with imperceptibility. In a similar way, the treatment of matters here may be unostentatiously useful.

Taste.

WHAT of all the rules, laws, and canons that have been formulated for the composition of a picture? Is there anything in them at all? Certainly we must grant that there is.

Then does it not follow that nobody can make a good picture unless he has learnt somewhere or other all these laws, rules, and canons? It does not follow at all, and for a very simple reason, which is that laws were not made before good pictures were, but long after. They are deductions from results, good and bad, in pictorial art—the good results being the outcome of something better still, to wit, good taste; whilst the bad results are just as certainly the outcome of a want of taste. Without taste all the recipes in the world are useless and dangerous. With taste, those same recipes are like good tools in the hands of a clever workman. It must follow, then, that taste is the great desideratum of all who would engage in the making of pictures; and, fortunately, it is not so rare as it seems. Wherever there is the least spark of it, there are also hopes that it may be fanned into flame.

It will be evident that if laws and conventions had been for ever the prime factors in the making of works of art, those works would be the same to-day as they were in their earliest glimmerings. But since taste is really the factor, individualism has been able to assert itself, and carry art along the ages, keeping it fresh even through the communism of schools.

The Old Order Changeth.

THERE is a moral philosophy in photography which insists on the old adage that every virtue is a vice in moderation. In respect of individuality of work, viciousness has often to be pardoned because of its loud voice in the matter of reform. Reformers have always been terrible people. They cannot achieve their objects with any degree of speed unless they beat the tom-tom to some purpose. Consequently their virtues run to extremes, and people stop and stare; at first in horror, but in the end with approbation. Landscape photography, as it is seen to-day, is in reality the outcome of unpardonable crimes against laws, rules, and canons of picture-making. And yet men have grown to see so little harm in it that they have preferred to accommodate the old laws to the new sinners rather than attempt the impossible task of coercing the reformers into law-abiding behaviour, according to the old *regime*.

But too much credit should not be attributed to these wayward ones. Their pioneer work was in many cases prompted by a mule-like renunciation of well-proved methods in favour of an indiscriminate adoption of certain

In the Meadows at Cawood. *By Fred Woodall.*

On the Wye. *By W. T. Greatbatch.*

THE FAIRY GLEN. BY A. P. HASLUCK.

THE QUIET POOL. BY ROGER FENTON.

peculiarities found on the focussing screen. In the old days, the views shown by the camera obscura were never accepted just as they came. The laws and canons of which mention has been made, being heirlooms of the grand style of painting, excluded all the naturalistic awkwardnesses which, gauged by such laws, spoiled the pictures of the camera obscura.

Those high horizons which made flat foregrounds look like steep hillsides; those tree trunks that planted themselves across a view, and often showed neither root nor branch; worse still, those giant heads with colossal hats obliterating half the distance; as well as a hundred other peculiarities, were inexorably eschewed by the painters who formerly amused themselves, as so many did, with the camera obscura. Following in their path, quite properly, the first users of the photographic camera, when they seriously attempted pictorial work, likewise endeavoured so to select and so to avoid that their works might be as nicely composed as possible on the lines of Claude and Turner, to mention no lesser lights.

Selections can be very easily made which will exactly reproduce the general arrangement of such a style of picture. "The Fairy Glen" affords a good illustration, though this is only a few years old. A much earlier example of obviously premeditated selection is Roger Fenton's "Pool," which, though not in the grand style exactly, was one of the most romantic and effective photographic pictures of its day.

But the facilities and cheapness of later photography made exposures more frequent and less valued. People grew disposed to fire away, get a good bag and trust to luck, rather than to come again to the same scene and watch and wait, remove branches, uproot trees, till the soil, rehearse models, and otherwise make an exposure a matter of months' preparation. Unfortunately, however, those who adopted the go-as-you-please method did not throw out their wasters, and in that fact lay the genesis of the modern style of photographic views. On the contrary, they were disposed often to treasure a plate that displayed some awful crime against composition, on account of some beauty in another part that they held to be a perfect atonement. For example, the "Sylvan Glades," by E. G. Hawgood, is full of remarkably pretty tree forms, and has in it the makings of a first-rate picture, could it only be recomposed. The sloping away of everything towards the lower left-hand corner classes the picture rather as one which just misses pictorial accomplishment, in fact as one of the beautiful "might-have-beens."

When once the artistic conscience has been flouted, it soon becomes callous. Curiosities of composition due in this way to eccentricities of unconsidered selection began to be condoned. They even gained a little praise. From that time the reformers let all the old laws go by the board, and exhibitions became the sanctuaries where they were "whitewashed" and canonised.

No doubt the emancipation was great, and the freedom and freshness of the new style invigorating, after the grand old boredom of the earlier.

Rules and Regulations.

IN art, as in social economics, laws held inviolate must mean stagnation. In both it is the wise reform and adaptation of laws in accordance with current necessities that ensure virility and freshness. Reformers, therefore, must be suffered.

There is, nevertheless, a deal of power in a good precedent, though it may be necessary to cut loose from its moorings. The old laws of art are a sheet anchor in these days of drifting ; and though individual taste may break away at numberless points, it can never cast off entirely, from their inherent strength. In fact, the fostering and improvement of taste is unmistakably due to the past observance of rules and canons. It may almost be affirmed that the only way of developing and chastening taste is by constantly studying and living with works of art of accepted merit, deducing from them fresh instances and applications of these very laws and canons. It need not follow that the next picture taken in hand should inexorably carry out all the old precepts. The view "On Oxshott Common" is teeming with broken laws—the principal mass in the centre, to mention only one old favourite. It remains, however, a most convincing record of the openness and breeziness of a stretch of common land, and if it has succeeded in making the proper impression upon the senses, it may be spared the hypercritical head-waggings of the pedant. Similarly, the excellent picture by J. C. S. Mummery, which faces page 19, is utterly at variance with a host of pictorial conventions.

As a matter of fact, a vast amount of failure may come about in the attempt to build up a picture by setting out some prescribed plan of composition. In photography, such a course is practically impossible. In painted pictures, one may very well run glibly on with theories of a pyramidal composition here, a diagonal there, an S line somewhere else, and so on. But how can all this be turned to account in photography, where it is impossible, before the subject is chosen, to say, " My next photograph shall have diagonal lines running so, and a balancing mass here, with clouds to complement the whole " ? Such a procedure may be possible to a painter roughing out his idea with charcoal, for with him laws may come first and taste afterwards ; but with the unfortunate camera man, who has to take what is already in existence, and whose design is only selection after all, taste *must* come first, and laws after, if they will.

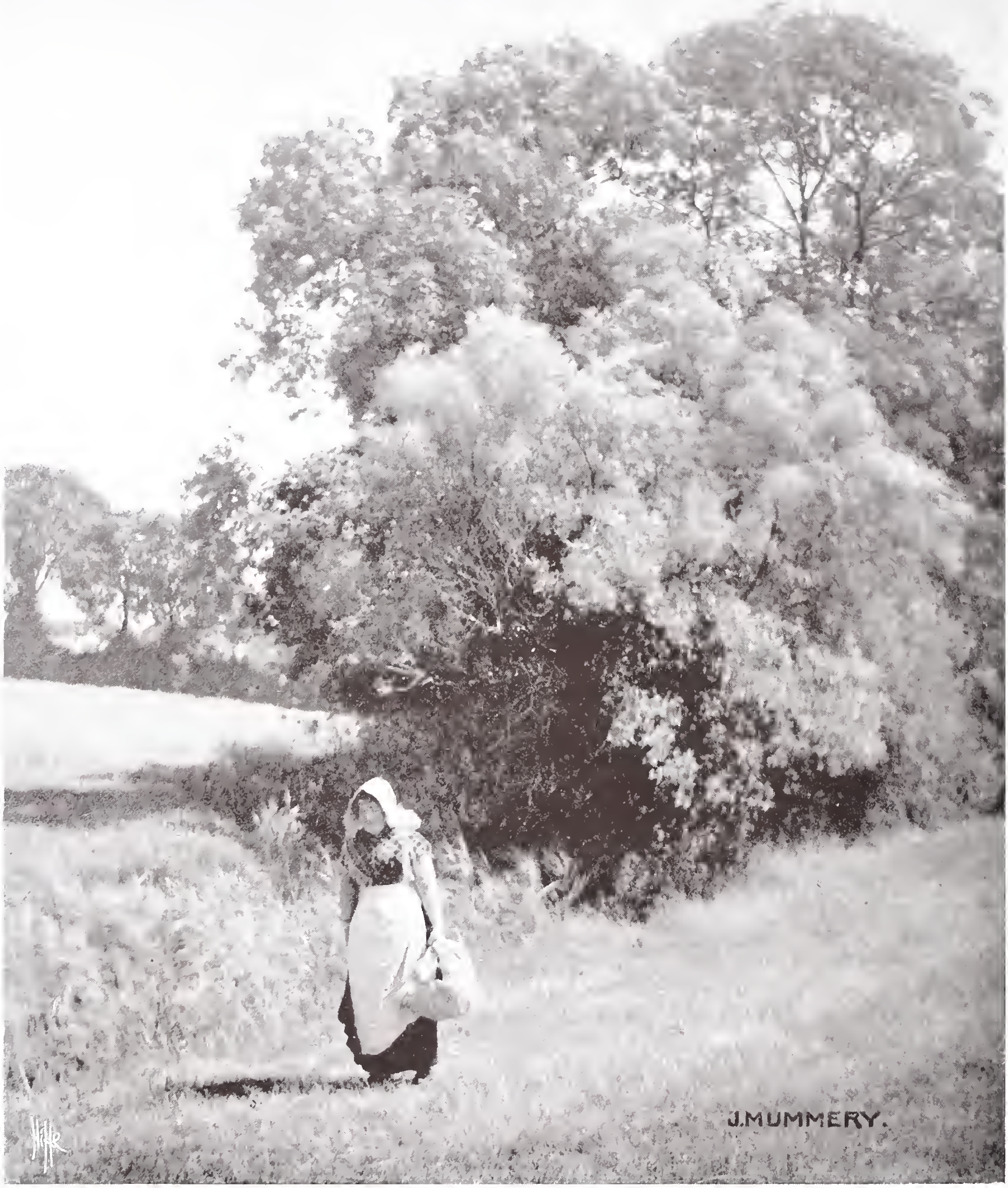
Knowing these laws and what they mean to a picture, it is possible nevertheless to select with better judgment in the first place, and in the second place so to treat a negative and a print that all uglinesses artistically illegal shall be eliminated.

The New Vision.

ALL the world has been struck with the aspect of scenes as shown in photographs—an aspect so new, so different, and so much more convincing to the uninitiated than the painters' versions of the past. People have been delighted to see the raw material ; the actual and ready to hand, instead of the ideal and the made ready. To the

SYLVAN GLADES. BY E. G. HAWGOOD.

ON OXSHOTT COMMON.



A SUMMER NOONTIDE. BY J. C. S. MUMMERY.

kind of folk who seem almost to boast that they know nothing of pictures, the unsophisticated appearance of some wide-stretching photographic view carried force just because it was so innocent of "composition." After the thousands of country damsels who have disported themselves with pitchers and rakes, and looked back with a smirk, from time immemorial, it certainly must have appeared natural, as opposed to the usual artificiality, to find a real girl, say, insignificantly squatting shoulder high in the bracken, without a thought of being "well placed" in the picture.

In like manner, it may be conceded that to show just so much as a man might see beneath the trees as he walked would constitute a sharp awakening from that style of landscape, necessitating a roving eye for the proper comprehension of its mighty trees, its mighty skies, and mighty distances.

Considering that the camera view, broadly speaking, is the human eye view, the wonder is that the conventions and adaptations of professional picture-makers could have been suffered so long, at least in what is called "topical" matters. It is certainly not surprising that people should have taken to the earliest snap-shots as to a friend known of old, but never introduced. Everybody has been loud in praise of what has seemed to be Nature herself caught naked and alive.

Photography and Painting.

EVEN painters have admitted the fascination of the unsophisticated view, and the result of this is that the photographic influence is quite easily traced in modern painting almost everywhere. It would be possible to give dozens of reproductions of painted pictures in which the characteristics of a photographic selection as opposed to the old pictorial plan are almost aggressively in evidence. But since these pages are only illustrated by photographs from nature, such an example must be foregone. One of the kind of pictures which is common both to painting and to photography, however, is derived from the view of "Maldon at Low Tide," by W. Thomas, where the banked pathway, broadening out to the spectator's feet, becomes the prime feature of the design. A similar scheme of a banked pathway over sandy flats was painted and exhibited a year or two ago, and was remarkably like Mr. Thomas's print in arrangement. Such a treatment is consistent, of course, with physical truth. A pathway under one's nose is naturally larger and stronger to the sight than more distant things; but, as a matter of fact, it is overlooked both by the artistically selective and by the ordinary mind. For this reason, it would have been suppressed in some way by a painter of the old school.

Even in modern painting, however, this actuality in the photographic influence is kept in sufficient check by the ideality with which it is mixed. In the modern pictorial work of photography, ideality is most often beyond the range of possibility.

Artistic Quackery.

EXCEPT in the hands of a few artists, professional and amateur, the utmost pictorial striving of photography is seldom free from the fault of the self-inflating frog in the fable. In its most recent developments it makes one enormous mistake: it follows too closely the art of painting as it is practised to-day. It would achieve greater success, and proceed with more impunity, if it aspired less towards that footing upon which modern painting stands. Upon that ground it can never have more than the slightest tenure; for painting rests there, mainly because, in its later accomplishments in landscape, it derives its chief manifestations from colour, which photography at present does not. The rather curious and mannered handling of certain schools of painting is the outcome of experimental treatment of colour in order to attain to certain effects which were militated against by former methods. They are strictly effects of *colour* in tone and atmosphere. The pictures in which they are found can never be reproduced by monotone engraving, though the thing is often attempted for commercial ends.

Manet and his followers, down to our own Clausen, would smile at the idea of a black and white version of their essays. As well render the rainbow in black and white. A little truth of tone may be separated from its hue, here and there, and in such cases a photograph might echo a modicum of it. But in that case the curious handling of a Manet is no help. Tone values are at their very best in a well-exposed and well-printed photograph. To drop to the ruse of excessive diffusion of focus and flat low tones, in the hope that the photograph may be thought to proceed on the same lines as a modern landscape, is foolishness, to give it no harder name. It is seizing and exalting the mere letter; the spirit being hopelessly beyond reach.

What photography should do in emulation of painting is to work out its own salvation on its own lines, as painting has done and is doing still. Instead of trying to commence where painting leaves off, it should go to the same school and take the lowest seat therein. With painting as an elder brother, to whom it may look for guidance, it will learn all the old lessons, and ultimately go further in its own direction than by aping a finished education.

There is a further danger lurking in the very natural reciprocity of the two arts. Painting has adopted a deal from photography in the way of "dry bones" upon which it has breathed; whilst photography in its turn has caught much of the breath of painting. So far the exchange is wholesome and advantageous. But these photographic "dry bones" in painters' pictures have been over and over again borrowed back by photography, which is, in that way, thrown back upon itself.

The result is that the peculiarities of camera vision lose the opportunity of being tempered with idealism as they might be; going, on the other hand, further and further in their own path until they overstep all licence. It would be easy to give examples of this, were it desirable to do so; but those who

SOLITARY. BY B. HENSON.

WOODLANDS. BY G. J. T. WALFORD.

MALDON AT LOW TIDE.
BY W. THOMAS.

follow closely modern photographic work know quite well how frequently there seems to have been a deliberate conservation of peculiarities, oftentimes unlovely, rather than any avoidance of the abnormal and abortive, which is the genuine artistic method. In portraiture this tendency is particularly marked.

An explanation, if not an excuse, for this tendency may perhaps be found in the fact that photographs are now so multitudinous and so much alike at a quick glance—monochromes as they are—that those who would keep chin above water have to do so by the same means exactly as are adopted by the modern commercial advertiser. In a word, they must be "striking," and the most productive way of realising this end is to carry out all the most curious suggestions of the focussing screen or view-finder.

The need for such licence has only arisen within the last few years, but that short period has proved long enough to turn the mind with relief towards a few occasional works conforming with those earlier laws, rules, and conventions which, at any rate, kept pictorial photography within safe grooves.

An Ideal Education.

THE best education for a landscape photographer would be the companionship of an artist possessing sympathy and understanding in the latest efforts of the best landscape schools. With such a guide and mentor, a photographer could be taken to Nature and be taught to use his eyes. He would be persuaded to study *effects*, as well as to look out for pretty corners, learning that the mere material items of a scene—the mills, the trees, the picturesque cottages, the peasant characters, and so on—are as nothing unless they are glorified by some delightful play of light and shade. The artist himself, of course, would know that the beauty of a landscape lives entirely in the effect of the light upon it.

Colour in a painting is held to excuse the baldness of subject often found in these days, because the work is regarded as a stage in experiment. In the time to come, however, critics no doubt will be crying out for more interest in subject, when the triumphs of light rendering are less scarce. But photographers have easier tasks. Colour, unhappily, is not more than suggested by them. Tone is their great concern, and this can be brought to excellence, first by training their eyes to see where tonal beauties lurk, and then by simply allowing their apparatus its best chance. Tone, light, and atmosphere are everywhere in Nature. To judge by the majority of exhibited prints, they might be considered as the rarest phenomena, and yet they only depend upon correct exposure and unaffected printing.

But even tone, light, and atmosphere are in photography not sufficient to make a picture by themselves. The colour has escaped. It is necessary, therefore, that some interest in composition or some pictorial accessories should come to the rescue.

If the two little works by W. Thomas, which we reproduce here, had been painted, they would have displayed more charm, for they both have a touch of the sentiment that belongs to their subjects in Nature. But as monotints they require something more in the way of composition, to make up for the lack of colour interest, a want which is explained when we remember that Mr. Thomas paints as well as photographs, and uses one as a help in the other.

It is clearly unwise for photographers of one class to give up the old picturesqueness in their search for more modern characteristics of landscape art ; but it is also as clearly unwise for another class not to school themselves to see and to secure the atmospheric and tonal charms even of the most "pretty-pretty" Christmas-cardy subject they could find. Such charms would redeem the tedium of many an album of prints by the amateur who snap-shots everything.

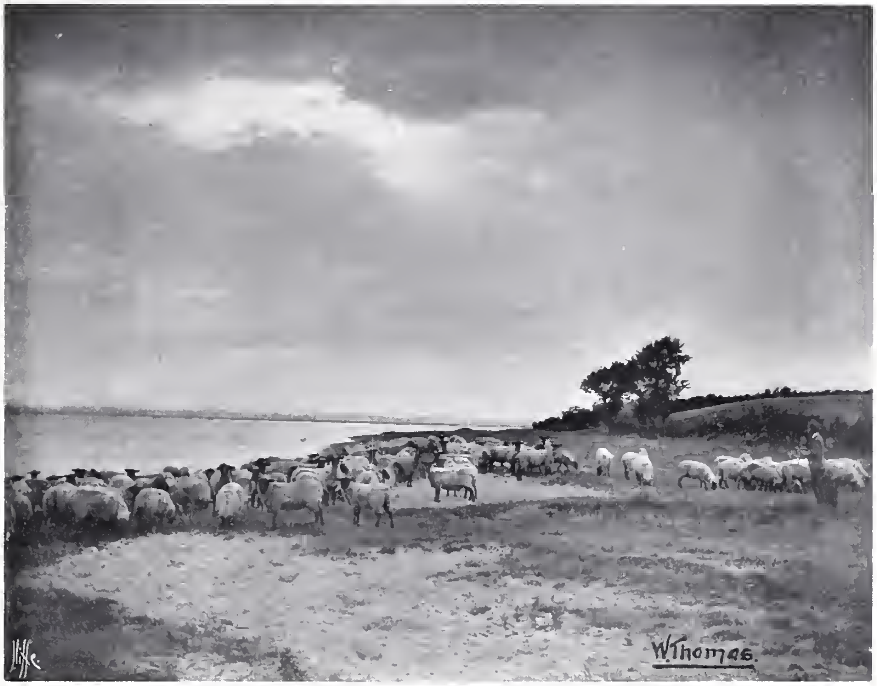
If a photographer would do the best that can be done, he must certainly do as the best painters have to do—cultivate an intimate acquaintance with Nature. That is a *sine quâ non.* A watchfulness of natural phenomena goes more to the making of a good landscapist than do mere draughtsmanship and facility of execution.

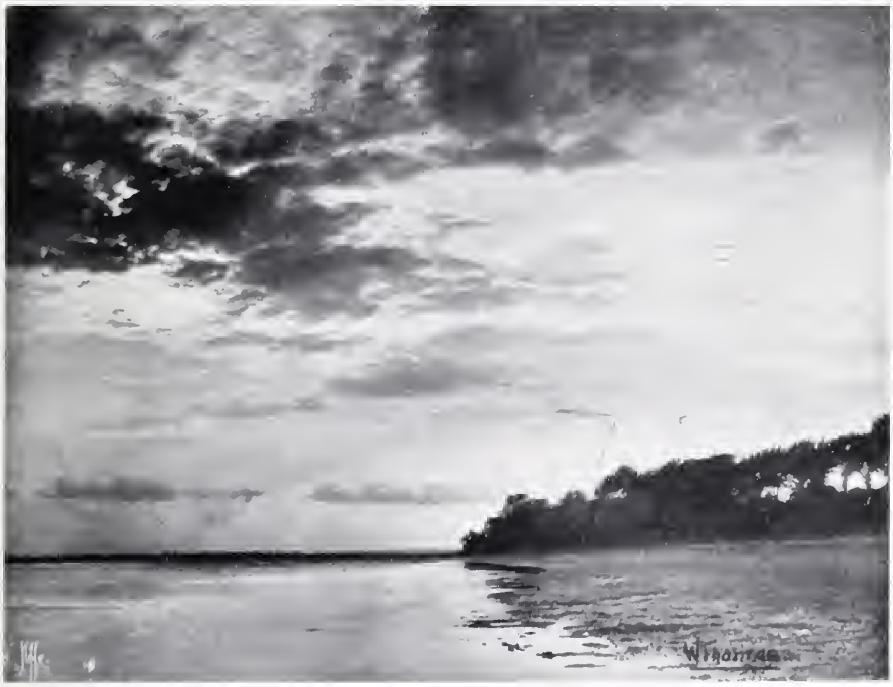
Once possessed of an intimacy with Nature, it would be impossible for a photographer to commit the glaring errors that assail a long-suffering public from exhibition walls. Then let the photographer betake himself on all possible occasions to the fields, to the seashore, to the mountains. If he cannot go with a good painter, let him go by himself, even to the extent of leaving his camera behind. It will do him good to watch and take mental note ; but he must be by himself, and have nothing to think of but the sky and the earth—not even that bugbear "composition."

Tone.

TO the fields for a whole year without exposing a single plate! That would be an education indeed! There might be hopes that the pupil would learn then that tone in a naturally-lit scene does not divide itself up into light grey and dark grey, light brown and dark brown (mostly dark), but is in a musical sense chromatic—an infinitely gradated gamut—and makes in its happy combinations the rich result that chords of close harmonies make : vastly different from the effect of one note in the bass and one in the treble, which is the general photographic idea in those prints that are manipulated, particularly those of the gum-bichromate order.

That variety of print, more than any other, requires the artistic knowledge and the faultless taste. Generally speaking, the more it is worked upon, the less does it resemble the negative from which it was derived. In the hands of an artist, it may give charming results ; but it is at the same time the greatest pitfall of the photographer. It is no doubt useful in turning a bad record of mid-day tones into something that by the help of a title may masquerade as an effect of the shades of evening. It is capable of much quality of an atmospheric kind, under the glamour of which the truth of tonal values often makes an unnoticed escape.





(Two landscapes by W. Thomas, referred to on page 21.)

THE DEPTH OF WINTER. BY W. RAWLINGS.

A platinum print from a properly exposed plate is infinitely more lovely and satisfying in respect to values, though it may lack a spurious kind of poetic mystery that belongs to the gum print.

Diffusion.

ANOTHER means of escape for truth of tone is the diffusion of focus so much indulged in of late years. This is sometimes carried to a degree quite reprehensible. As already stated, it appears to be due to a notion that a good work of art should not be sharp in definition: a perfectly gratuitous assumption, and one easily disproved. The reason why blurred photographs were so rapidly taken into favour was possibly the attractiveness of their mere novelty—their exclusiveness amongst the crowd. A moment's reflection should reveal the illogical position in art of a picture blurred all over. Not a living soul, or a dead one either, ever saw the country blurred. They might have seen one spot sharp and the environment less *forcibly;* but that is a different thing. If it is desired to imitate this less forcible perception of parts, it may be done by a mechanical elasticity of focus; but even the truth of that process is open to grave question. The least evil is certainly to preserve a fair amount of definition in all parts of a picture. The spectator's eye may be trusted to dwell upon and to see particularly the main item in the composition; and it should be permitted to roam further afield if it so wish, just as it does in viewing an actual landscape in the country. The eye behaves similarly before both the real and the pictured. There is a vast difference between the natural and the artificial, between native truth and ill-founded convention, and this difference is found in the blurry picture as compared with that of reasonable definition.

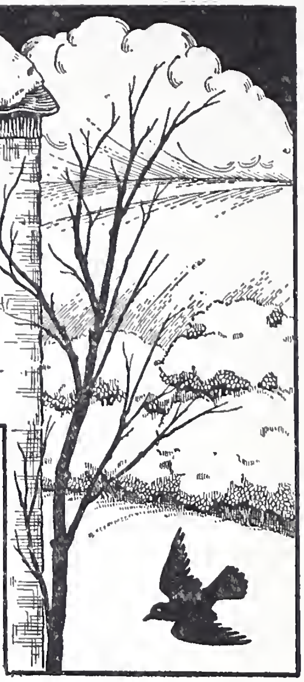
But further than this, there is a very serious falsification of tone values when definition is much diffused. A disintegration of contours takes place, which, spreading in every direction, carries the ghosts of dark images over the bodies of light ones, and *vice versâ.* If the diffusion is carried far enough, all the tones are mixed up into a middle general one, and the picture is gone. Enlargements constantly suffer from loss of values in this way.

Fecit.

W. RAWLINGS.

A Photographer of Winter.

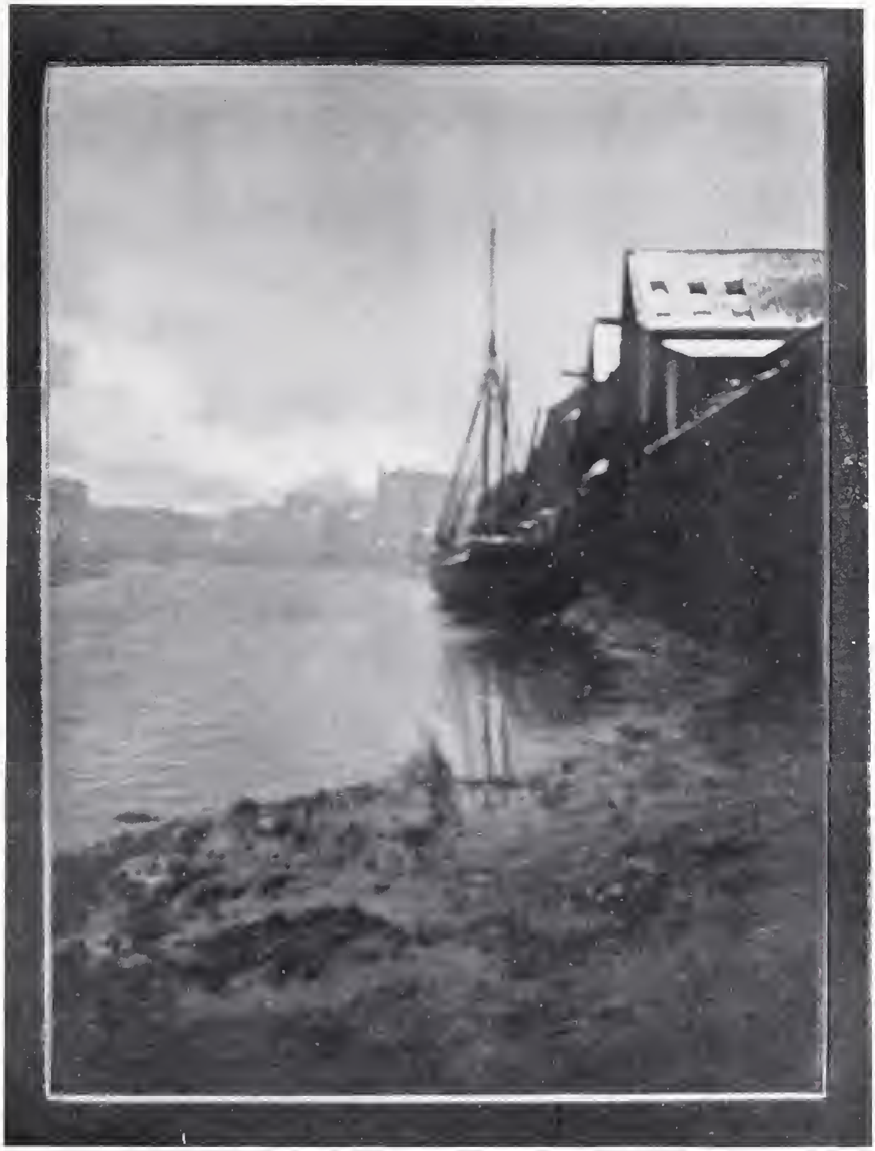
BY "MONOCHROME."



IT is curious to trace the comparatively slight causes which may lead a man's inclinations or habits into some given direction in which thereafter they run to the partial or complete desertion of other channels, until at last he comes to be known *par excellence* as a worker in that one particular line, and maybe achieves a reputation therein higher than any to which he might have attained had he continued to digress first to one side and then to the other. It is not my intention to suggest that Mr. Rawlings had he taken up some other branch of photography would not have secured distinction in it; but it is the fact that a habit of taking a holiday of a week or two when the snow is on the ground has resulted in his recognition as almost the only photographer in the country who has specialised in subjects in which snow is the *motif*.

To my thinking—although in this I am not perhaps in agreement with many—one of his most successful winter pictures is that which figures as a frontispiece to this volume. Its composition is of the simplest character, and has been carried out with that art which conceals art. How many of the readers of *Photography* Christmas Number will not look at it and say to themselves, "Why, I could go and do a thing like that myself." Well, why don't they? It is a simple village street, two or three snow-clad cottages, a distant tree, a road track through the snow, an eminently wintry sky, and that is all. Yet the picture is pervaded with the clear, crisp air of the winter's day, and the photographer has been singularly successful in catching the spirit both of the place and of the season. May I add a word for the fine technique which gives us all the delicate nuances in the broken snowy ground, yet this without the sacrifice of the shadows on the sides of the cottages.

In "A Winter Stillness," Mr. Rawlings has a totally different type of winter subject, and one, moreover, which does not lend itself so well to the



A TOUCH OF WINTER. BY W. RAWLINGS.

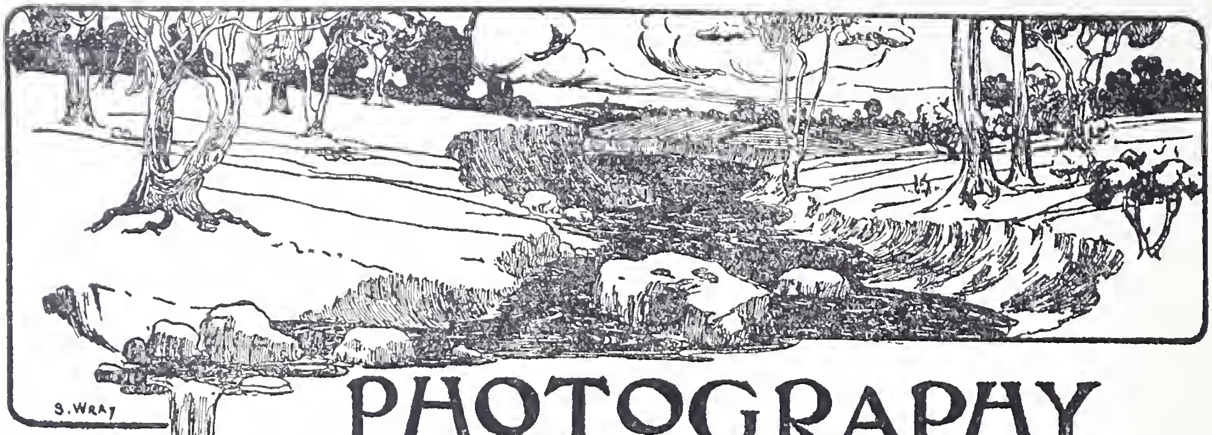
UNDER THE PINES. BY WILL A. CADBY

attempt to give us the cold raw air of the partially frozen river. The composition also is somewhat primitive, though here again the technique is as fine as can well be wished, and has quite saved the situation. In the hands of nine photographers out of ten such a scene as Mr. Rawlings had before him when he took this would be represented as an uninteresting panorama of masts and posts. The atmosphere which is here, intervening between us and even the nearest of the vessels, would be altogether wanting. "A Snow-bound Harbour" (facing page 13) is a similarly successful attempt at picture-making with somewhat unpromising material. Who would have had the hardihood, we wonder, to set up a camera before such a scene as is represented in "The Depth of Winter" (facing page 23), and who, doing so, would have managed to convey the idea of the thickness of the coat of snow so well, the curiously clear and brilliant distance that shines like a sea beneath the leaden wintry sky, and the blackness of tree forms, even in the middle distance? "Winter in the Woods" (facing page 14) is another and quite different type of "snow scene." The smooth bare trunks stand out from a thin and broken covering of snow; behind them, with conspicuous truthfulness of tone, is the woodland, and behind this again is the shining distance with just a glimpse of sky. Here too has Mr. Rawlings chosen, almost defiantly, a subject which puts the pictorial qualities of the photographer to the severest test, but he has succeeded.

There remains one only of the pictures, which are reproduced in this book, for our consideration, and that is "Sun and Snow on Aislaby Moor" (facing page 15). A popular verdict, I should not be surprised to find, would be recorded in favour of this over the others; but it would hardly be confirmed by a more critical examination. The presence of the figure, at any rate in its present position, seems unfortunate. Not only does a line in the distance appear to originate in his cap, but he is too symmetrically placed to be agreeable, and, indeed, the symmetry of the picture as a whole is too marked. A horizontal and almost straight line appears to divide it into two equal parts, and there is, over and above this, a suggestion of radiating lines from a centre, which falls almost exactly in the centre.

No note on Mr. Rawlings's work in this direction would be complete without reference to the fine "Snowstorm on Dartmoor," in the R.P.S. exhibition, recently reproduced in *Photography*. I am only sorry to learn that considerations of space at the last moment compel its exclusion from this collection. In some respects it was finer than anything included here, although it was not without a weak spot, which was to be found in the unfortunate attitude of one of the cattle—an excellent example of the troubles with which the photographer has to contend.

Mr. Rawlings has set an example of specialisation which many might do well to copy.



PHOTOGRAPHY IN A WOOD

BY WILL. A. CADBY

A WOOD is often the grave of the photographer's hopes. He enters it, dazzled and delighted with the wonderful possibilities that it seems to present for picture making. The lights and shades are marvellous, and the trees—how they pose! We leave him, for who would, if they could help it, stand by while the camera man dodges about under his cloth, picture seeking? Yes, we depart, and later on we meet the same man, tired and depressed looking. We ask if he is hopeful as to the results. According to his temperament, his answer is an avoidance of the subject, or a frank declaration that he has not exposed a plate! If we are sympathetic he will unburden himself, and explain his troubles, and tell us how one tree, that he could not, of course, move, just spoilt a really fine picture, and how another subject, from which he hoped great things, was marred by the wind. Then that pearly atmosphere, through which the tall straight pines looked like glorified cathedral pillars, evaded him if he tried to get near enough to use his camera in it. And so on, and so on. He who photographs in a wood, and is quite satisfied with his results, is either very clever or very blind. So illusive and so subtle are the tones, so fairylike and gnomish is the atmosphere, and at times so weird is the whole effect, that we must be grateful if we recognise in our finished print a ghost of the quality we have felt and striven to transfer to our dry plate.

But, nevertheless, the wood is well worth all the trouble it gives us. It is beautiful through all the seasons, and effects vary as the hours of the day pass by.

AUTUMN LEAVES. BY WILL A. CADBY.

A GIANT OF THE WOOD.
BY WILL A. CADBY.

To the photographer who has not by experience found out the time when to search the wood for effects that are most congenial to his taste and temperament I would recommend trying work on still, sunless days to begin with. If he does this his difficulties will be lessened. For, sunlight in a wood *can* look very patchy and unpoetical, and needs experience and careful treatment. A still day is a most important factor towards comparative success, for the mechanical difficulties engendered by restless, blowing branches must be obvious even to the novice, and when an isochromatic plate and a colour screen are necessities (which is often the case in woodland work) still weather is more valuable than ever.

But, altogether apart from these reasons, quietude of the elements seems almost essential to many aspects of tree-covered country. My own experience of virgin forests has left an impression of stillness and silence on my mind, with an occasional far-off rustle of leaves high up in the trees, that told of the wind blowing outside. No, wood-nymphs will not appear on a blustering day, nor will pixies play in a wind-swept glade. And so, if we wish to get a suggestion of these interesting little people into our photographs, we must choose still weather for our work.

I would also advise the beginner to avoid glimpses of sky through the trees. Like sunshine, and like, too, the little girl in the story-book, they may be "very, very good," but there is a possibility, nay probability, of their being "horrid," for when the light is very subdued, as is often the case deep in a wood, it is distracting to get spots of much brighter light in the distance, and they are most likely to mar the entire effect.

Spring and autumn are the seasons in which the most satisfactory wood photographs can be taken. The young green leaves of the birches, and the wonderful light tracery of the larches, lighted up against sombre pine trees, are subjects so full of beauty as to make us almost regret the advent of summer, that equalises these wonderful contrasts. Amongst the glories of autumn tints, we photographers must acknowledge ourselves at a disadvantage; for, after all, we are but workers in black and white. But, although we cannot give a faithful account of the colours that surround us, it is the season of still and often misty days, and we can at least devote ourselves to tone values. The winter affords us striking pictures, especially when the snow is on the ground, and the long branches of the sleeping trees are bedecked with their white burden.

I have found that people are very differently affected by the trees. To some they are—well, just trees; to others they seem friends, who make their personality very strongly felt, and they influence the moods of those who are sensitive to them.

These are the people who should carry their cameras to the woods, and if they find the oaks and the elms difficult sitters to manage, they should not be discouraged, but must try again when their mood is more in harmony with the spirit of the forest.

PETTIFER'S PRATTLE

MR. PETTIFER TELLS HIS EXPERIENCES OF WINTER PHOTOGRAPHY.

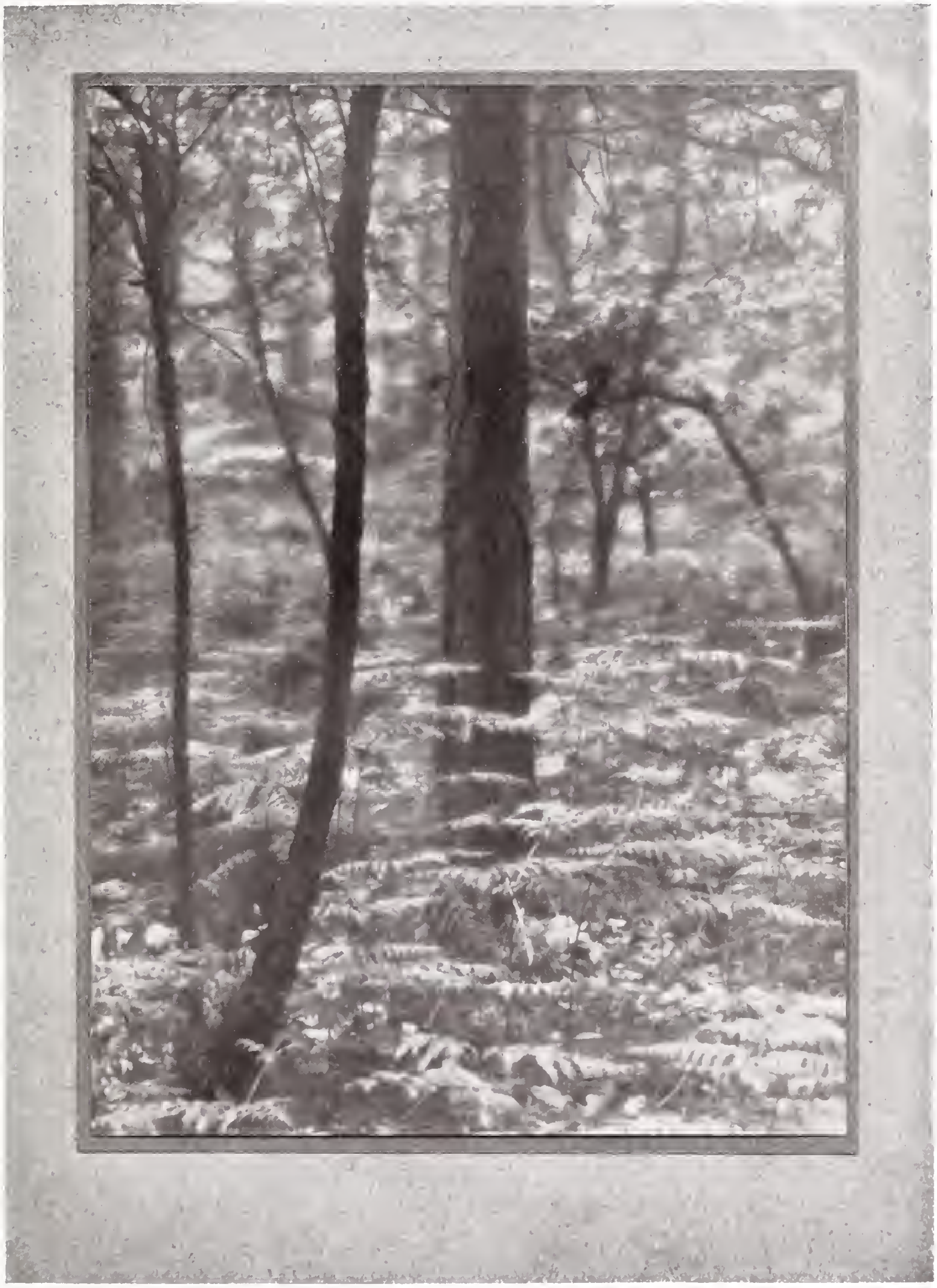
I CAN'T open a photographic paper nowadays, sighed Mr. Pettifer, without finding an article on how to take snow and frost. Such stuff makes me tired. It does really ; it argues a lack of journalistic judgment. I always thought the art of writing consisted of being topical. But what is there that's topical in snow ? Whoever heard of snow at Christmas time ? The idea's absurd. One would think these editor fellows never used their eyes. If I had the editing of the photographic periodicals I'd put my snow article in somewhere between April and September ; and my Christmas number would be devoted to information on the subject of how to prevent frilling.

No, sir, our climate isn't what it once was. When I first took up photography —long before your time, of course—the good old days were still with us. In that happy period, ideals were not contradicted by sober facts. We used to exchange Yuletide greeting cards with coloured pictures of people skating on a frozen pond and a robin (three times as big as the pond) perched upon a spray of holly. And the thing was true to life, too ; bar only the bird. We really did skate and we really saw snow. Winter photography was a pretty serious matter in those days.

I used to think nothing of standing for hours up to the neck in snow in order to obtain precisely the effect I wanted. We'd not got rapid plates then, and in dull weather exposures were something awful. To show you the sort of thing we had to put up with, I may mention that when photographing the interior of a London church I made calculations with my actinometer which showed me that at f/22 I should have to give an exposure of nearly a month.

I did so, though it almost killed me.

I riveted my camera to the rail of the gallery to make it immovable. During the week I generally left it by itself safely enough, but on prayer-meeting nights and Sundays I had to keep guard over it all the time for fear of meddling choirboys. My patience was rewarded, however, by a grand negative with lovely detail, and, of course, no trace of the congregation (which wasn't very surprising), and only a faint haze in the pulpit representing the parson's white surplice. It was rather a singular coincidence, by the by, that the reverend gentleman should choose while I was there to preach a series of sermons on the text, " Let there be light," because that precisely expressed my own heartfelt wish.



WHERE THE BRACKEN GROWS.
BY WILL A. CADBY.

A WINTER MIST. BY WILL A. CADBY.

What was I talking about ? Oh, yes, winter photography : of course. In that connection, I wonder whether I ever mentioned to you that I was the inventor and originator of the modern fuzzy school.

You never heard about it ? No ? I'm surprised. I thought the name of Pettifer was carved upon the tablets of fame too deeply to have become blurred already. Well, well, I suppose the existence and prosperity of the Linked Ring is my best monument.

It came about by a pure chance that I was the earliest impressionist ; and it was due to that extreme slowness of our emulsions at which I've just hinted.

I was doing a winter sunset landscape study of a group of trees, and had erected my camera upon the deep-lying snow. Owing to the non-actinic quality of the light, I found myself compelled to give an exposure of ten minutes.

As soon as the cap was off, I lit the pocket spirit lamp which I always carried, and warmed my packet of sandwiches, which had become as hard as boards owing to the cold. Even the mustard had frozen into odd little yellow flakes. This, and the eating of the sandwiches, occupied some time, and when I'd done I found I'd given my plate an exposure of about a quarter of an hour. I therefore hastily replaced the cap.

What was my chagrin to observe that the camera had meanwhile sunk several inches into the snow. The points of the tripod, being of dark metal, had slowly but surely punctuated the fleecy carpet ; and there was little doubt that my apparatus had been steadily moving downwards in a vertical direction throughout the whole fifteen minutes.

I despaired of my result, and, in fact, only developed it out of curiosity.

That negative, however, was a revelation in decorative art. The trees were each elongated in the most astonishing fashion ; and I have little hesitation in saying that both Aubrey Beardsley and S. H. Sime took much of their original inspiration from me.

I immediately saw the beauty of the effect. But one stumbling block was the setting sun, which, of course, was stretched out into a straight up-and-down streak like a piece of tape.

My mode of overcoming this problem was an inspiration. I framed my picture upside down. The foreground snow now became the sky, while the sky was metamorphosed into water. I pasted a tiny circle of paper on to the snow first of all. This circle gave a white spot in the print. The spot was the sun, and the real sun was its reflection in the water.

It was only many years afterwards that this glorious decorative study received its fitting acknowledgment. I was asked to give a one-man show at Russell Square, and I hung my masterpiece (which I entitled " Nocturne ") in the middle of the best bit of wall.

Mark this : when the exhibition opened, it was gone.

You're surprised ? I wasn't. It had been stolen, of course, by a jealous Link. Although I admit I was amazed, the compliment was unmistakable.

However, I'm keeping a fresh card up my sleeve. The rapidity of our modern plates has made the repetition of my masterpiece impossible by the old methods, even were snow procurable. These difficulties will be overcome by the introduction of the Pettifer patent falling camera front. Needless to remark, I'm well aware that every camera worthy of the name is already fitted with a falling front; but not one of them, my dear sir, not one of them, is fitted (except by mistake) with a front which is so constituted as to fall during exposure. That is what the Pettifer front does. There, I will not say more, or news of the invention may filter to the ears of Houghton's and Kodak, Ltd., and they'll forestall me.

If you want real winter photography nowadays, you've got to go to the Alps. Grindelwald and Davos and St. Moritz are the only habitable spots where ice and snow are visible on Christmas Day. I generally manage to skip over to Switzerland some time in the winter, and try a few snow scenes just to keep my hand in. Last winter I secured some splendid kinematograph films of skating and tobogganning and—and—— Which reminds me, did I ever show you my kinematogram of descending the Cresta?

You know the Cresta is the finest toboggan slide in the world. It is about a mile long, full of the most dreadful twists, and coated with flawless ice from top to bottom.

Heaps of ordinary stick-in-the-mud folk have kinematographed tobogganners descending the Cresta, but it rested with me to conceive the notion of exposing a film while descending myself. Ah, you are surprised? I do not wonder. Even I felt appalled at the daring and danger of my task.

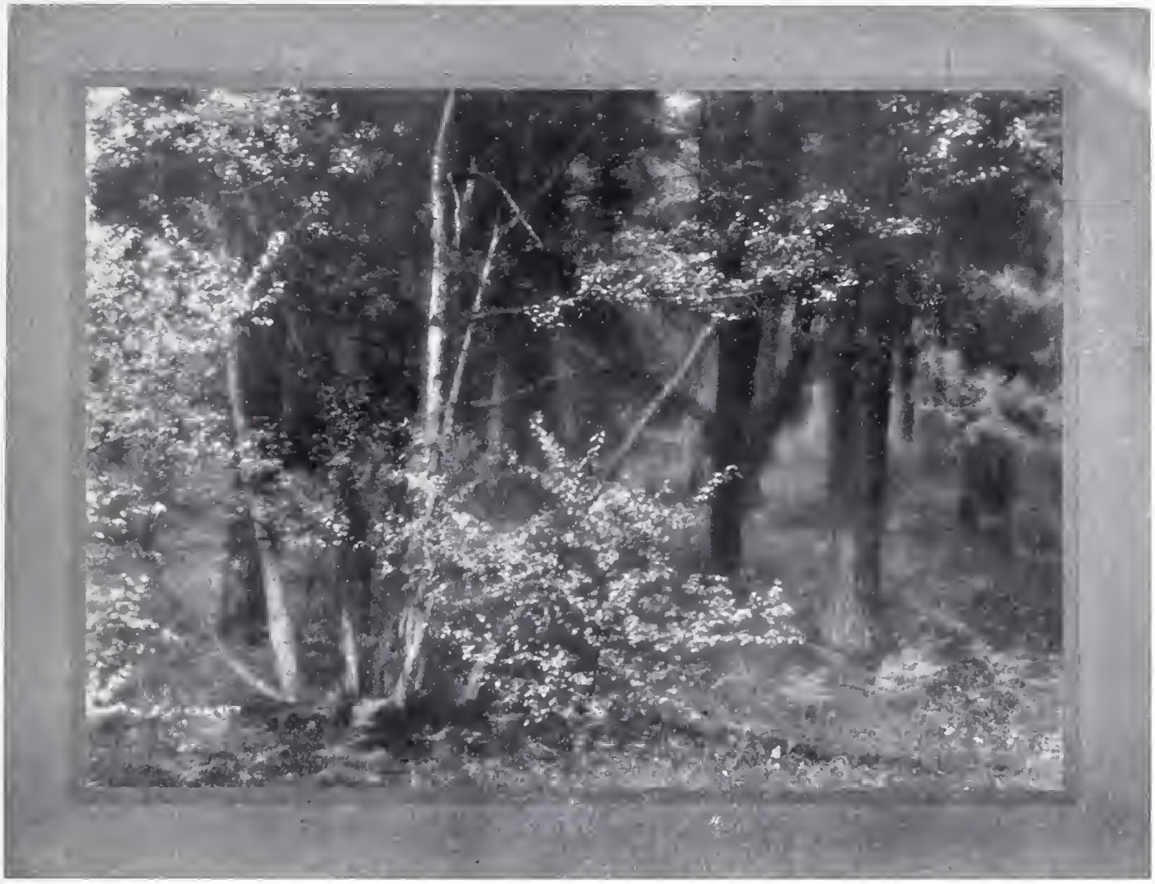
I approached the club committee who manage the Cresta, and explained my scheme. They pooh-poohed it, and also informed me that I'd smash not merely my apparatus, but my neck likewise. I retorted by subscribing a handsome donation to the club, and securing an option on a consecrated space in the English cemetery.

Impressed by my *sangfroid*, the committee accorded the necessary permission, and elected me a temporary member of their toboggan club.

A cloudless day came at last, and I repaired bright and early to the top of the run. To my surprise and (let it be whispered) gratification, an immense crowd was already assembled. Special sleighs, it seemed, had brought sightseers from Davos and Thusis, and even over the Maloja from Italy. The local hotel-keepers were delighted, and I may remark that a deputation of them subsequently begged me to repeat my experiment annually, in return for free board and lodging during my stay.

My apparatus, as you know, is somewhat bulky, so the toboggan I chose had to be large. I fixed the whole affair on the front of the toboggan and lay face downwards behind it. My feet were shoved into powerful iron rakes for steering, as my hands, of course, would be occupied holding the kinematograph steady and turning its handle.

Perhaps the best way I can describe the incident will be to read a cutting from the *Alpine Post*. Its reporter does not appear to have grasped the serious scientific aspect of my performance, and descends here and there to needless personalities; but, in the main, his account is correct:



THE LIGHT SPRING GREEN AMONG THE PINES.
BY WILL A. CADBY.

AN AUTUMN TANGLE. BY WILL A. CADBY.

" Undoubtedly the event of the past week was Mr. Pettifer's kinematographic swoop down the Cresta. Not deterred by the warnings of mere sportsmen, the gallant gentleman appeared at the top of the run on the morning of the Grand National Races—doubtless attracted by the unusual size of his audience—and insisted on going down. He had brought with him an enormous sleigh of antique type, fitted with what looked like a cross between a lighthouse and a barrel-organ. Taking his seat behind this, he dug his rakes into the ice and (wildly grinding the organ handle) glided down past the assembled multitudes at a speed which has never been rivalled since Herr Muller's cow "——

Um, well, the extract ends there. I merely read it to you to show that the event was noticed in the press, and, therefore, can be verified. Not that I imagine you would doubt my word, but still——

Suffice it to say, I literally took my life in my hands that day. Although I had never before tobogganned, either on the Cresta or elsewhere, I completely broke all records. So frightful was the pace at which I went that I was unable to draw breath till I came to a stop. As it happened, I touched the ice with my elbow, and the friction was such that it burnt a hole in my sleeve, and left a smooth track of melted surface behind me. Since then, all Cresta tobogganners have worn asbestos elbow pads, though at their snail's pace I should suppose the precaution needless.

The wonderful thing was that I managed to keep my presence of mind enough to go on working the kinematograph. The resulting film was a gem. The central ice-track glides at a giddy pace towards the spectator, and on each side a human wall of watchers rushes by. For a fraction of a second the screen goes black and splotchy. That is where I cut a stray dog in two. Later, the whole landscape (audience and all) reels to one side, and revolves right round, being momentarily upside down. This represents a spill I had, which might have ended badly but for my lightning pace. I merely revolved —taking a rotary motion—and centrifugal force kept both my apparatus and myself glued, as it were, to the toboggan. The finale displays for one delirious instant a vast view over valleys and villages. This was at the end of the run, when my trusty steed rushed up the last incline and leapt heavenward by its momentum to a height of forty-seven feet (estimated by the official timekeeper).

I am far from being an imaginative man, but I must say during that wild career I could not help thinking seriously of what would occur were I to run off the track and hurl myself against a rock or a pinetree. Had I not owned a clear conscience I believe my reason might have tottered.

Only some days later it dawned on me that I might have saved all risk by allowing the sleigh to run its course alone, and arranging clockwork to turn the kinematograph's handle. It was this idea which suggested the notion of attaching a clockwork kinematograph to a sort of buoy, which I lowered through a hole in the ice of the St. Moritz Lake. The buoy was carried along by the current of the outgoing river, and as it went it automatically photographed the under surface of the ice. The result is very odd, though slightly out of focus.

You see (through a kind of dim window) the silhouette of feet and clumsy, bloated, and foreshortened bodies. These are skaters overhead; and never, I venture to say, has mankind been photographed in such grotesque poses. Of course, I was ready waiting for my buoy at the lake's outlet, and the last pictures of all show me standing on the bank with a salmon-gaff in my hand.

As a matter of fact, the best films I took at St. Moritz were of the ladies' skiing (snow-shoeing) race, but as some of the competitors went headfirst into a drift immediately in front of the camera, I decided to destroy the film for fear it might fall into unscientific hands.

Speaking of ladies and of winter photography, did I ever tell you of the curious results I obtained by radiographing the ice crystals in the "Little Mary" of a fair American who'd just been having a snack at Fuller's? No? Listen while I ——

You've got to go? Then I suppose the yarn must keep. See you again next week, I hope. *Au revoir!*

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